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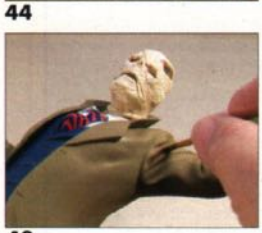
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On the Cover

When modeler John Vojtech speaks of inspiration, he cites the importance of "vision" for his projects. But when you look at his latest masterpiece, you might not believe your eyes!

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Editor's Page

By Matthew Usher

More than a model

IT'S DIFFICULT to find the right words to describe the work of John Vojtech. With this issue, John's models have appeared on the cover of FSM three times. His first, a 1/72 scale AC-130 gunship appeared in 2006, and a B-2 stealth bomber in the same scale followed almost a year later.

And while both of those both of those models are amazingly detailed, John's most recent work, this month's F-15C Eagle, takes the standard for superdetailing into the stratosphere. Just days after completing the 1/32 scale model, John brought it here to the *FineScale Modeler* offices so we could photograph it in our studio. Having the opportunity to look at one of John's models up close and in person is an amazing experience. I know the project is based on Tamiya's great kit, but looking at John's rendition it becomes clear that every piece of the model has been sharpened to an unbelievable standard. The sum of that effort is a magnificent piece of work, and I'm glad we have the opportunity to share it with you.

JOHN'S MODEL IS TRULY AMAZING

One of our goals at FSM is to bring you a wide variety of modeling subjects with every issue. This time the variety is especially extensive, with everything from Steve Guthrie's intricately detailed small-scale Sherman to Jeff Herne's giant Jagdpanther. We round things out with a cast-resin submarine, an Invisible Man figure, and a World War II Russian fighter. How's that for a full assortment?

FineScale Modeler has a new staff member! Megan McChain joined us a few weeks ago as our new Editorial Associate. Megan's a skilled journalist who spent the last year working on one of our sister publications, *Astronomy*. In addition to her editorial skills, Megan has a great background in electronic media. It's great to have her on board and I'm sure she'll be a great addition to the FSM staff.

Until next time, enjoy the issue!

Matthew Usher

editor@finescale.com

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Want to learn more? For the latest on modeling tips and techiques visit our web site at www.FineScale.com

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GENERAL

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SCALE TALK

Let us know what you think! Comments, suggestions, corrections, and additional views on *FSM* articles are welcome. Mailed letters (address at left under *General*) should be typed or hand-printed and clearly marked "To the Editor" on the envelope. You can e-mail your comments to editor@finescale.com or visit FineScale.com and click on "Contact Us." Comments should be no more than 300 words. Please tell us your location.

READER GALLERY

Show off your handiwork! Send original high-res digital images, slides, or prints along with complete caption information to "Reader Gallery" (address at left under *General*); you can submit digital images at www.Contribute.Kalmbach.com. Photos are paid for upon publication; if you live in the U.S., include your Social Security number. *FSM* obtains all publication rights (including electronic rights) to the images upon payment. Unused photos are returned only if you provide sufficient postage and packing materials.

QUESTIONS & ANSWERS

Got a modeling problem? Q&A is here to help. Mail your questions to "Q&A" (address at left under *General*), e-mail them to questions@finescale.com, or visit FineScale.com and click on "Contact Us" (here, you'll find "Hobby FAQ," which answers general modeling questions). We are unable to conduct lengthy research, such as answering questions on markings and unit histories. We publish letters of general interest; however, the volume of mail prevents us from answering every question in the magazine. Please include your name, address, and a daytime phone number.

READER TIPS

Would you like to share an idea about a tool or technique – and make a few dollars too? Send a brief description along with a photograph or sketch to "Reader Tips" (address at left under *General*). Please enclose a stamped, self-addressed envelope for the return of photos. E-mail your tips to tips@finescale.com or visit FineScale.com and click on "Contact Us." Tips are paid for upon publication; if you live in the U.S., include your Social Security number. *FSM* obtains all publication rights (including electronic rights) to the text and images upon payment.

Scale Talk

Your voice in *FSM*

Modeling in Iraq

I'm stationed at Joint Base Balad (JBB), located about 60 miles north of Baghdad. It's the busiest *military* airport in the world and the second largest airport in the world. It has a population of 30,000 people, military and civilian. JBB is a key logistical hub for the Iraq theater of operations. Almost everything comes into or out of our base before moving on to other bases, including the small FOBs (forward operating bases) surrounding Balad and Baghdad.

When I arrived in Iraq in November 2008, I was amazed at the number of things to do on JBB. There were recreation centers, at least four indoor gyms, two pools (one indoor and one outdoor), fifty different religious services, various dancing lessons, a large theater with free movies running every day, and bulletin boards filled with information about various events. To get an idea of all the available activities, check out the base newspaper, *Expeditionary Times*, at: http://www.dvidshub.net/?script=pubs/pubs_show.php&id=140.

One thing that caught my eye was the Joint Base Balad Plastic Model Club. I hadn't built any models since I was a teenager, and was eager to give it another try. I'm not sure when the club was started, but for about a year before I got here, it was run by Major Andy Taylor, from the 555 Engineer Brigade. On Wednesday evenings, the club would get together at the East Side Recreation Center and build plastic models for about two hours. We have several boxes of models to choose from, and a supply chest filled with a selection of paints, brushes, knives, sandpaper, and various other modeling tools. Most people come for a few meetings, just to build a model or two. Others take the models and build them at their CHUs (containerized housing unit, which is where most military live). Several members come to every meeting and encourage others to work on their models, sharing tips and techniques. It's a fun way to spend time, hang out, socialize, and of course build plastic models.

We keep a copy or two of *FineScale Modeler* on hand to inspire folks. Most of us are not good enough to make models for *FSM* – but we try! The main purpose of the group is to relax and have fun.

There are clubs like this at the various bases in Iraq, but I believe we are the largest and most organized. We are lucky to get some great support from modeling groups and shops in the U.S. The group

▲ **Maj. Brian Nomi and hobbyists at Joint Base Balad formed a model club in Iraq. Here's Brian working on a Boeing 737-400.**

◀ **Here are the frequent fliers of the Joint Base Balad Plastic Model Club. The club's leader, Staff Sgt. Goldberg, is featured on the top right with his face obscured by a kit box.**

More out of the-box – please!

Thank you, thank you, thank you! Finally an article for the lowly grunt modeler, one who builds straight out of the box. The cover of the September 2009 issue made me smile when I saw the blurb about adding detail to Monogram's 1/48 scale F-102A.

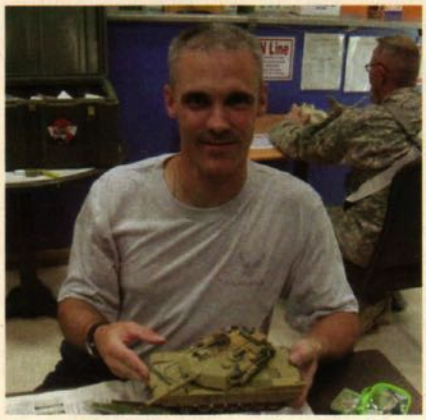
I grew up with good-old Revell kits – after 50 or so pieces, you had an accurate replica of the subject. Now, after assembling 500 or so pieces, most of which I can no longer focus on, you get pretty much the same subject. And for me, the new kits are not anywhere near as fun to build.

Like a lot of other modelers, I never seem to finish a kit. I must have more than 50 kits in various stages of completion. So I really have to build out of the box if I'm ever going to complete a model.

I'd love for *FSM* to create a column for all us out-of-the-box builders.

– Craig Westbrooke
Albany, Calif.

In the September 2009 *FSM*, Wayne Hui reveals tips to improve Monogram's 1/48 scale F-102A.



▲ **Master Sgt. Chris Raynor, who's consider the best modeler in the club, built this M1 Abrams. Maj. Nomi says, "Chris' model has great detail; the photo hardly does it justice."**

leader requests extra models and supplies, and our chest is almost always filled with plenty of modeling materials. Some of the models are great, like the brand-new, unopened automotive models. Others are not so great, such as the pre-owned *Alien* spaceship I built recently that had a receipt from sometime in 1997 and was missing a few parts. We are grateful for all the support from home, and we send out a "Thank you" to everyone who sends us supplies.

Also, thanks to all the hobbyists who support model clubs in Iraq! Building models is a great boost to our morale – I always look forward to Wednesday nights. The troops are very thankful to you all!

– Maj. Brian Nomi
Joint Base Balad, Iraq

Superior service

Midway through building Accurate Miniatures 1/48 scale Yak-1b I noticed the canopy was broken. So, I contacted Accurate Miniatures through its Web site, following the site's instructions and requesting replacements.

Ten days later, the company responded with the entire transparent tree. Outstanding service like this should be recognized. Thank you, Accurate Miniatures.

– Dick Goldsberry
Poland, Maine

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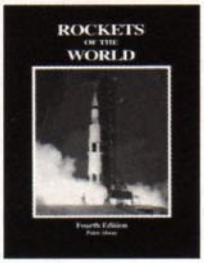

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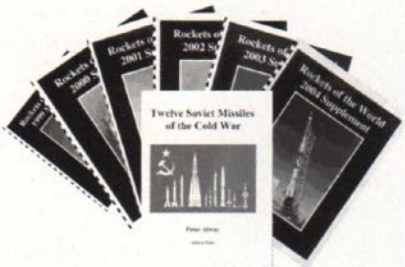

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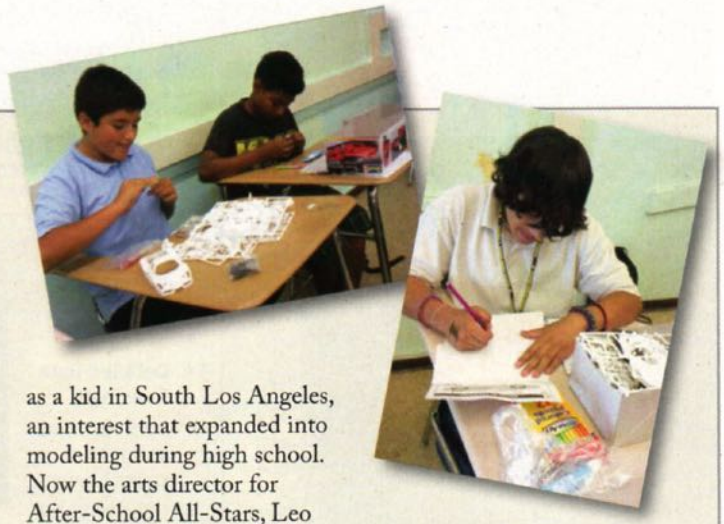
Spotlight

Compiled by Aaron Skinner

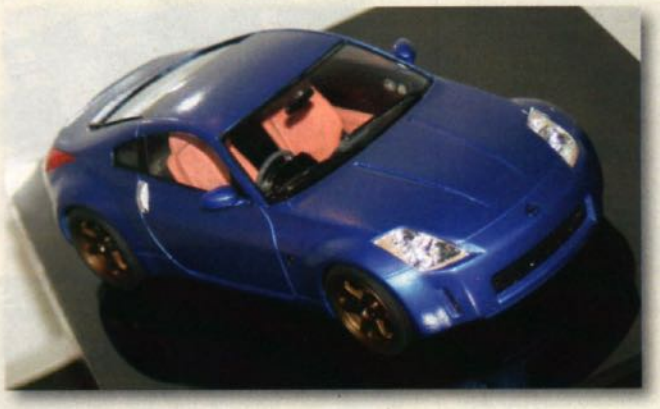
Program teaches kids about cars through modeling



Using model cars, Leo's Chop Shop, a class taught as part of the After-School All-Stars in Los Angeles, gives at-risk middle-school students insight in the automotive industry.

While showing students the skills necessary to build good models, including assembly, sanding, priming, and painting, instructor Leo Galardo introduces automobile dynamics, such as the engine and drivetrain, as well as teaching them about the lifestyle and culture around vehicle groups, such as hot rods, the low rider scene, and even the prestige of owning a Lamborghini.

Leo started sketching cars as a kid in South Los Angeles, an interest that expanded into modeling during high school. Now the arts director for After-School All-Stars, Leo says he uses the program to spark kids' interest in the automotive world and pass on three core values: commitment, patience, and discipline.



Working in teams, participants design, then build a model car. Many kids come to the Chop Shop with a short attention span and are used to instant gratification, Leo says. For many, working to complete one of the models might be the first time they've learned about hard work. But, by the time they're done with a project, they've discovered talents they didn't know they had, Leo explains. Many want to build another model, and many former participants ask about mentoring new students.

Four years after its inception, Leo's Chop Shop is starting to attract attention. Several student models are on display at the Petersen Automotive Museum in Los Angeles (www.petersen.org) through February 7, 2010, and Ferrari and Honda have hosted students and their models. For information on the program, visit www.la-allstars.com or call 323-957-4426.

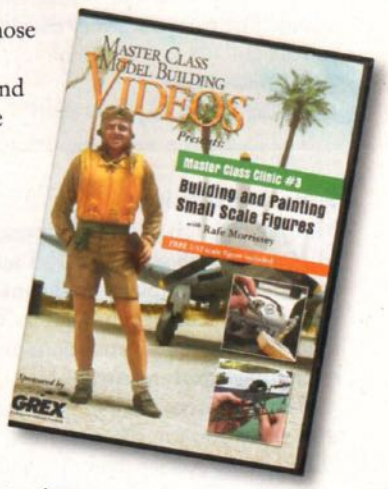
Revell resurrects Rommel's Rod

Baby boomers and fans of Tom Daniel's show cars, rejoice! Revell has reissued the Daniel-designed 1/24 scale Rommel's Rod, a Monogram classic from 1969, complete with its skeleton crew and the original box art.

Dubbed "The Desert Fox's Krazy Kommand Kar," the model merges a Mercedes-Benz front end and engine with a souped-up halftrack rear. Despite claims of "authentic," historical detail, it bears almost no resemblance to Erwin Rommel's SdKfz 250/3 command car. But that's where the fun is! Despite the mold's age, the parts are clean and should build up nicely.

Keep your tongue firmly in your cheek, have a blast building this zany ride, and turn a few heads at the next club meeting. The kit is available for $22.95 from many hobby retailers.

Basic figure painting DVD



FSM author Rafe Morrissey – whose 1/32 scale Spitfire graced last month's cover – hosts "Building and Painting Small Scale Figures," the latest release from Master Class Model Building Videos. Rafe's method is designed to allow modelers to easily put crews on scale tanks and aircraft. The production isn't fancy, but it's clear, to the point, and easy to follow. The two-disk set includes info on supplies, assembly, priming, mixing colors, even painting hair. Also enclosed is the 1/32 scale resin U.S. Navy/ Marine pilot figure Rafe demonstrates on in the video. For variety, the standing figure comes with optional heads.

The title is available for $45 from Master Class Models, www.masterclassmodels.com, or by writing Master Class Model Building Videos, 929 Sherwood Forest Road, Annapolis, MD 21401.

New decals and resin from two stalwarts

In addition to an opportunity to see lots of great models, the IPMS-USA Nationals in Columbus, Ohio, in August was a great chance for *FSM* to check out the latest releases from the prolific and interesting aftermarket manufacturers Twobobs Aviation Graphics and Two Mikes Resin Accessories. They did not disappoint.

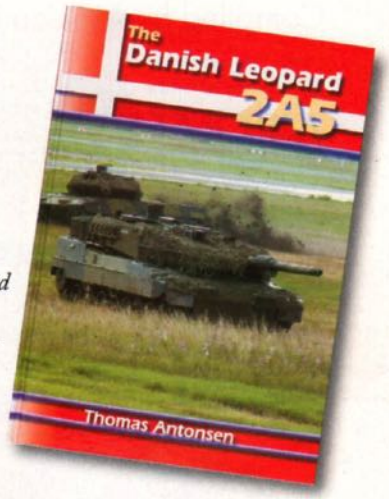
To coincide with Twobob's impending 1/48 scale T-2 Buckeye kit, the company has released two sheets of markings for the U.S. Navy trainer. VT Buckeyes No. 1 (No. 48-200, $12) includes markings for aircraft from: VT-4 Warbucks at NAS Pensacola; VT-7 Eagles at NAS Meridian, circa 1970; and VT-10 Wildcats at Pensacola around 1980. The second set (No. 48-201, $12) features: T-2Cs from VT-19 Attack Frogs at Meridian in 1975; VT-23 Professionals at NAS Kingsville circa 1984; and VT-26 Flying Tigers at Meridian in 1970.

I was also intrigued by a set of markings for 1/48 scale B-1Bs with nicely rendered nose art (No. 48-204, $12), and 1/48 scale satellite killer F-15As (No. 48-194, $12).

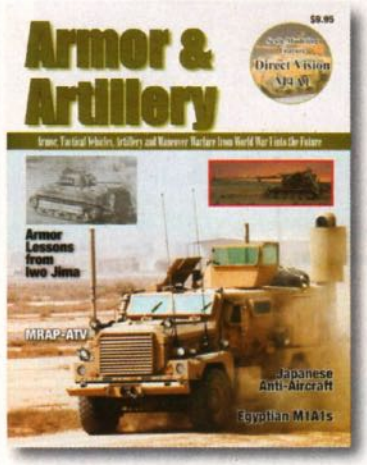
To help build the latter, Two Mikes has produced a 1/48 scale resin SC-19 anti-satellite missile, including the unique launch rail (No. 48025, $17). Another hot subject at Two Mikes' booth at at the convention was the Avro Vulcan. A set of the company's resin seamless intakes (No. 72002, $25) and well-detailed landing gear bays (No. 72004, $30) will go a long way toward addressing the Airfix kit's deficiencies.

For more information about new products from Twobobs and Two Mikes, check this issue's New Products listing. Twobobs' decals are available from www.twobobs.net. To see more of Two Mikes' resin details, visit www.twomikesresin.com.

Danish armor explored



As a fan of Leopard tanks of all stripes, I was thrilled when *FSM* received Thomas Antonsen's book, *The Danish Leopard 2A5* (ISBN 978-1-84768-027-3). Published by Barbarossa Books, the 172-page volume details the history of the Denmark's Leopard 2A5s, including a short section on their Afghan deployment, color walkaround photos emphasizing the components that separate the Danish variant, and a section devoted to modeling the vehicles with information about available kits and accessories, and includes scale drawings. *The Danish Leopard 2A5* is available from Barbarossa Books, 44-1621-810-810, www.barbarossa-books.eu, for about $45.



Armor & Artillery

Jeff McKaughan, known for his work on the *Journal of Military Ordnance*, is editing a new title from Defense House Publishing. *Armor & Artillery* examines specific ground weapons systems with lots of photos and interesting text. The inaugural issue includes stories on American armor on Iwo Jima, the Stryker Mobile Gun System, Egyptian Abrams, and a photo essay on a derelict Iraqi self-propelled gun sporting a 170mm tube built on a T-54/55 hull. (I see a conversion project in my future!) There's even a 1/35 scale Sherman build. Look for *Armor & Artillery* at book stores and hobby shops.

New Products

Compiled by Monica Freitag

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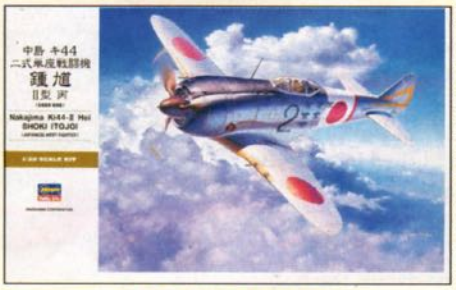
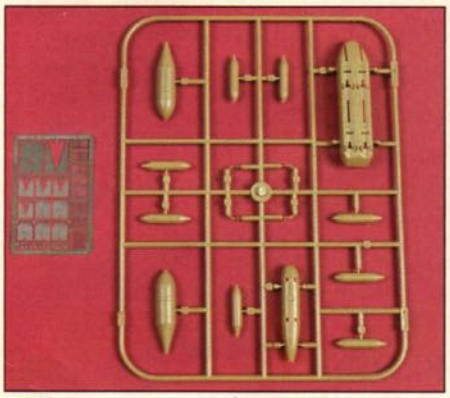
1/32 SCALE KITS



Nakajima Ki-44-II *Hei Shoki* "Tojo" - Japanese Army fighter, No. ST30, $59.95. Look for a full review on page 60 in this issue of *FSM*. From Hasegawa, available from Dragon Models USA Inc.

1/32 DETAIL SETS



Bf 109E bomb set, No. 3005, $9.95. From Eduard and Associates.

1/48 SCALE KITS

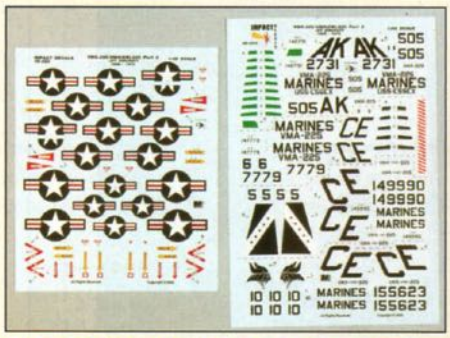
Messerschmitt Bf 109F-4 Trop "Marseille" (Hans-Joachim Marseille figure included), No. 09871, $41.95. From Hasegawa, available from Dragon Models USA Inc.

Mitsubishi F1M2 Type Zero observation seaplane "Pete" Model 11, No. JT96, $39.95. Bonus kit: photo-etched upgrade parts included. Look for a detailed review in an upcoming issue of *FSM*. From Hasegawa, available from Dragon Models USA Inc.

Messerschmitt Bf 109G-14/AS JG300, No. 09865, $35.95. From Hasegawa, available from Dragon Models USA Inc.

F-16C Fighting Falcon "Alaska," No. 09869, $46.95. From Hasegawa, available from Dragon Models USA Inc.

1/48 DECAL SETS



VMA-225/VMA(AW)-225 Part 2 jet aircraft 1958-1972, No. 48-005, $15. From Impact Hobby Decals.

F/A-18C/D Death Times Two, No. 48-206, $12. From Twobobs Aviation Graphics.

F/A-18E Lemoore's Screamin' Eagles, No. 48-205, $12. From Twobobs Aviation Graphics.

F-4E Kara Sahim Phantom, No. 48-198, $12. From Twobobs Aviation Graphics.

1/48 DETAIL SETS

EE Canberra corrected tail/rudder and elevators for all Airfix, No. 48028, $23. From Two Mikes Resin Accessories.

Saab Viggen corrected belly insert for ESCI/Airfix, No. 48024, $12. From Two Mikes Resin Accessories.

1/72 SCALE KITS

SPAD XIII late version, No. 7053, $19.95. Look for a detailed review on page 59 in this issue of *FSM*. From Eduard and Associates.

F-22 Raptor, No. 80210, $17.99. FromHobbyBoss, available from Squadron Products.

English Electric Canberra PR.9, No. A05039, $22. Look for a detailed review in an upcoming issue of *FSM*. From Airfix.

English Electric Canberra B(I)8, No. A05038, $22. From Airfix.

1/72 DECAL SETS

Mil Mi-26 "Halo," No. 72-031(1). Contact your local dealer for price information. From Begemot Decals, available from Linden Hill.

1/144 SCALE KITS

F/A-18E Super Hornet FA-14 Tophaters and EA-18G Growler VX-31 Dust Devils, No. 4615, $12.95. From Dragon, available from Dragon Models USA Inc.

ARMOR»

1/35 SCALE KITS

SdKfz 161/4 2cm Flakpanzer IV "Wirbelwind," No. 6540, $49.95. 1939-1945 series. From Dragon, available from Dragon Models USA Inc.

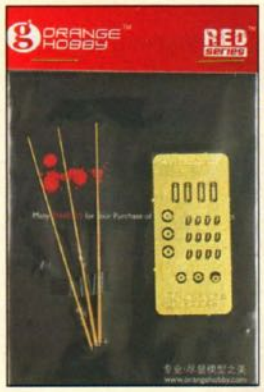
PzKmpf Mk.I 202(e) (Dingo Mk.II scout car) with crew, No. 35074, $41.95. WWII Military Miniature Series, contains two figures. From MiniArt, available from Dragon Models USA Inc.

Befehlsjäger 38 Ausf M, No. 6472, $45.95. Smart Kit. From Dragon, available from Dragon Models USA Inc.

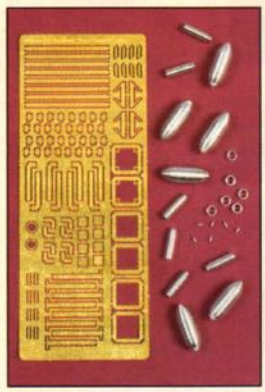
Stryker M1134 Anti-tank guided missile (ATGM), No. AF35134, $64. From AFV Club, available from Merit International.

Type 5 "Chi-Ri" Imperial Japanese Army medium tank, $69.95. Look for a detailed review in an upcoming issue of *FSM*. From FineMolds, available from Dragon Models USA Inc.

1/35 DETAIL SETS



WWII (2m) German combat vehicle universal antenna, No. 135, $12.95. 3 pieces. From Orange Hobby, available from Stevens International.



280mm HE rocket with launch crate, No. 1598, $34.95. Six sets, includes decals. From Orange Hobby, available from Stevens International.

On-vehicle tool racks and brass preformed storage tube for WWII German Panther Ausf G/Jagdpanther (all production series) for Dragon and Tamiya, No. L35A048, $14.95. From Griffon Model, available from Dragon Models USA Inc.

Track fenders for WWII German PzKpfw 38(t) Ausf.G and SdKfz 138/1 Ausf H Grille for Dragon, No. L35A045, $9.95. From Griffon Model, available from Dragon Models USA Inc.

WWII German Jagdpanther late production premium edition (Commander version convertible/Schurzen) for Dragon, No. BPL35008, $47.95. Bonus Pack. From Griffon Model, available from Dragon Models USA Inc.

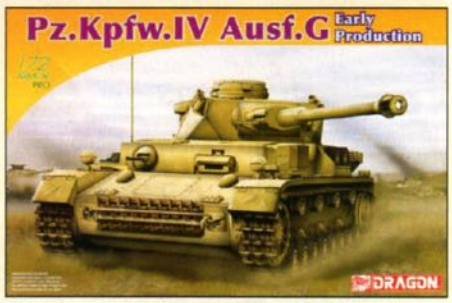
sWS 60cm infrared searchlight carrier Uhu, No. L3511-T, $12.95. From Great Wall Hobby, available from Dragon Models USA Inc.

New Products

Fighting compartment floor with built in stowage compartments for WWII German SdKfz 138/Ausf H 15cm sIG 33/1 Grille for Dragon, No. L35A042, $9.95. From Griffon Model, available from Dragon Models USA Inc.

WWII German SdKfz 138/1 Ausf H 15cm sIH 33/1 Grille (includes track fenders) for Dragon, No. L35028, $64.95. From Griffon Model, available from Dragon Models USA Inc.

1/72 SCALE KITS



PzKpfw IV Ausf G early production, No. 7278, $19.95. Armor Pro. From Dragon, available from Dragon Models USA Inc.

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SHIPS»

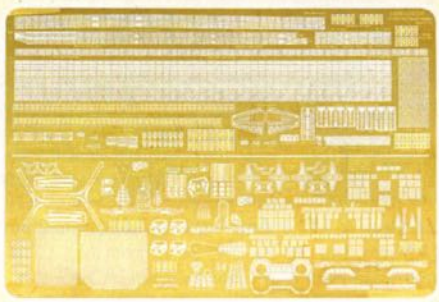
1/72 SCALE KITS

IJN *I-53* and Kaitens, No. 70818, $150. Look for a detailed review in an upcoming issue of *FSM*. From Lindberg.

1/350 SCALE KITS

German U-boat type VII C, No. SE73503, $25. From AFV Club, available from Merit International.

1/350 DETAIL SETS



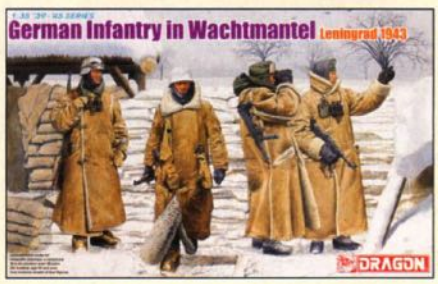
***Udaloy* (modern Russian missile destroyer) for Trumpeter,** No. 350-47, $45. From Gold Medal Models.

IJN extra railings (top), fits all WWII Japanese warship kits, No. 350-48, $35; **WWII USS *Gearing* for Dragon,** No. 350-49, $40. From Gold Medal Models.

MILITARY FIGURES»

1/35 SCALE KITS

German motorcycle repair crew, No. MB3560, $29.95. From Master Box Ltd., available from Dragon Models USA Inc.



German infantry in Wachtmantel – Leningrad 1943, No. 6518, $10.95. 1939-1945 series. From Dragon, available from Dragon Models USA Inc.

Ticket Home - German soldiers 1941-1943, No. MB3552, $9.50. From Master Box Ltd., available from Dragon Models USA Inc.

Stukas im Anflug (Stukas flying) German infantry, Stalingrad, Summer 1942, No. MB3545, $13.50. From Master Box Ltd., available from Dragon Models USA Inc.

1/48 SCALE KITS

Modern RAF aircrew figures Panavia Tornado specific (2), No. 48029, $14. From Two Mikes Resin Accessories.

AUTOS»

1/12 SCALE KITS

Porsche 910 1967 World Sportscar Championship Winner, No. 12041, $151. From Tamiya America, Inc.

1/20 SCALE KITS

312T2 "1976 Japan GP," No. 20243, $54.95. From Hasegawa, available from Dragon Models USA Inc.

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FineScale Modeler magazine receives new products from a variety of manufacturers on a daily basis and we are now able to share all of them with you through our interactive exclusive FSM product database. Click on the Product News link at www.FineScale.com.

1/35 SCALE KITS

Citroën Traction 11CV staff car, No. 35301, $28. Front doors open, detailed interior. Driver figure and four types of markings included. From Tamiya America, Inc.

MISCELLANEOUS»

1/35 SCALE KITS

German WWII 200L oil drums, No. L3513, $6.95. From Great Wall Hobby, available from Dragon Models USA Inc.

German WWII 20L jerry cans, No. L3514, $9.95. From Great Wall Hobby, available from Dragon Models USA Inc.

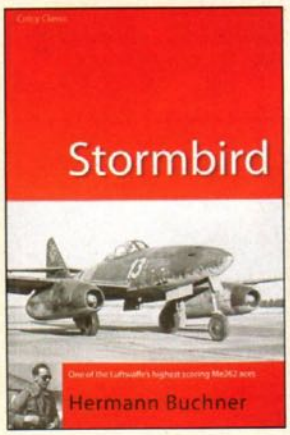
Handcrafted scale trees, $14 each. Shown: 3" Live Oak 94350 2 pack and 1.5" Late-fall deciduous 94364 4 pack. From JTT, available from Model Rectifier Corporation. Check with your local dealer for availability.

TOOLS»

Detail abrasive brushes. Shown: EZ473SA, fine; EZ472SA, medium; EZ471SA, coarse. EZLock compatible. Check with your local dealer for availability and price. From Dremel.

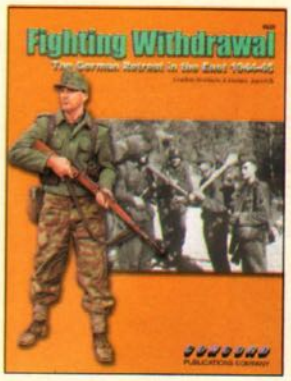
BOOKSHELF»

***Servicing The Hubble Space Telescope - Space Shuttle* Atlantis - 2009,** $19.95, ISBN: 158-007-138-4 by Dennis R. Jenkins and Jorge R. Frank, soft cover, 108 pages, 300 color photos. From Specialty Press.

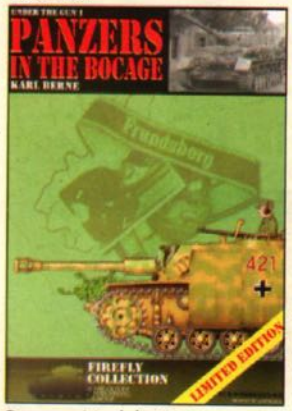


Stormbird, $18.95, ISBN: 978-0-85979-140-3 by Hermann Buchner, soft cover, 272 pages, 16 page color section, 140 black-and-white photos. From Crecy Publishing, available from From Specialty Press.

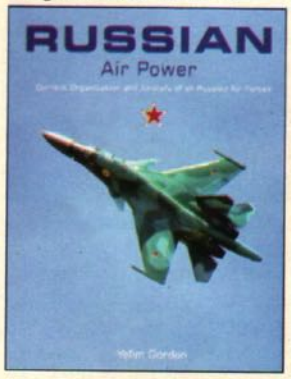
New Products



Fighting Withdrawal - the German Retreat in the East 1944-45, $14.95, ISBN: 962-361-154-4, by Gordon Rottman and Dmitriy Zgonik, soft cover, 52 pages, all black-and-white photos. From Concord Publications, available from Dragon Models USA Inc.



Under the Gun 1: Panzers in the Bocage, $24.95, ISBN: 978-0-9806593-0-6, by Karl Berne, soft cover, 33 pages, color profiles, all black-and-white photos. From The Oliver Publishing Group, available from Dragon Models USA Inc.



Russian Air Power, $63.95, ISBN: 185-780-316-7 by Yefim Gordon, hard cover, 336 pages, 550 photos, 200 color profiles, 120 regiment and squadron badges color photos. From Midland Publishing, available from Specialty Press.

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www.airfix.com

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Postov on Don 344028, Russia
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Racine, WI 53406
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TUNING YOUR AIRBRUSH for better finishes

Polish and shape to improve airflow • BY AARON SKINNER

Double-action airbrushes are precision tools when they come from the factory. But, like a car, a simple tune-up can give you an edge when it comes to putting paint exactly where it needs to go.

The techniques are simple but the parts being dealt with are delicate, so exercise caution.

The heart of a double-action brush is the front end, where a needle and nozzle come together to form a valve. As the button is pulled back, the needle is pulled farther out of the nozzle, allowing more paint to be sucked out by the air passing over the nozzle. As the air and paint mix, the paint is atomized and projected out of the brush's front end and onto the painting surface. The smoother the airflow, the easier it is to control the pattern of paint.

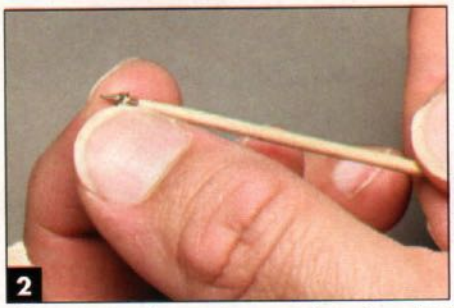
Tuning the airbrush is all about improving air and paint flow to ensure the most uniform pattern possible.

THE NOZZLE

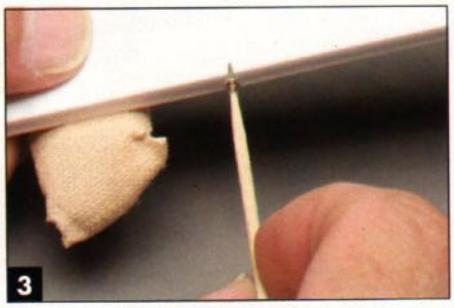
Because air flows over the nozzle on its way out of the brush, any microscopic deformities will cause turbulence. The solution is polishing those out. And while we're at it we'll remove any step at the nozzle's lip.

Tuning supplies

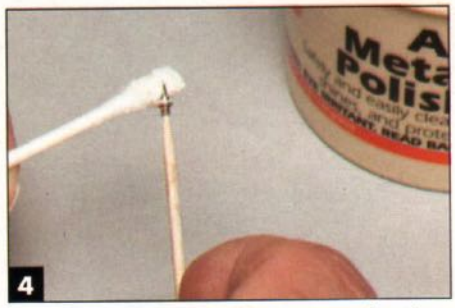
- Meguiar's All Metal Polish, found at automotive detailing stores. Meguiar's Inc., Irvine, CA 92614, 800-347-5700, www.meguiars.com
- 3-in-1 Oil, found at many supermarkets and hardware stores.
- Nail buffing stick. Usually a padded sanding stick with two or three different surfaces, designed to polish nails. Found in the cosmetics area of most supermarkets and drug stores.
- Round toothpicks
- Cotton swabs
- Cosmetic cotton squares or rounds, found in the cosmetics area of most supermarkets and drug stores.



After removing the nozzle, mount it on the end of a round toothpick. Snug it down, but don't push so hard that it deforms the lip.



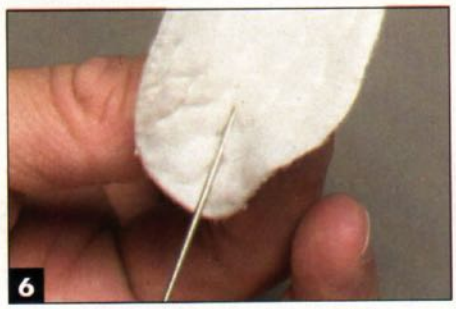
Hold the toothpick loosely and rotate the nozzle on the edge of a buffing stick. Slowly tilt the toothpick to round the end. Don't move the nozzle from side to side and don't apply pressure; you'll risk creating a flat spot. Work slowly and check your work under a bright light as you go, checking for imperfections in the reflections on the surface. It's easy to smooth obvious problems using the buffing stick's finest grit.



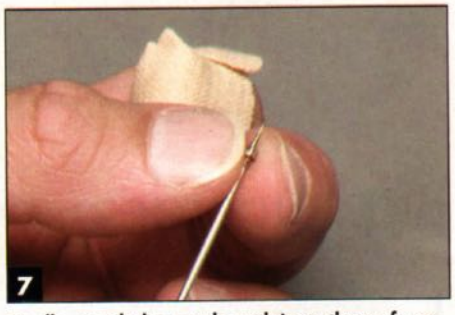
Completely coat the end of a cotton swab with Meguiar's All Metal Polish, then rotate the nozzle gently against the tip. Keep at it until the nozzle has a highly polished shine, stopping occasionally to clean the nozzle with a cosmetic square. Once you're done and have ensured the nozzle is free of residue, set it aside in a safe location to prevent damage; you'll need it later.

THE NEEDLE

Place the tip of the needle on the nail buffer's finest side (usually the lightest). *Note: On the pad I used here, the finest is white, but for illustration visibility I used the pink side.* Rotate the tip against the pad as you drag it across surface. Don't put pressure on the needle; the weight of the needle should be enough to lightly wear the needle to a uniform point. Again work slowly and incrementally, checking the work often.



Next, polish the needle. Apply some of the Meguiar's polish to a cotton round and drag the needle through a lightly held bend, rotating the needle as you pull. Keep the pressure consistent and always *pull* the tip through; don't *push* it or you might bend the tip.



Finally, match the nozzle and tip so the surfaces meet perfectly. Apply a little metal polish to the inside of the nozzle with a toothpick, then carefully insert the needle – don't force it or you may damage the nozzle. Gently rotate the needle about 20 times using just enough pressure to keep it seated. The polish will remove a small amount of metal on both the needle and the nozzle, custom-fitting the two. Remove any residual polish and you're ready to spray. **FSM**

EXCLUSIVE

Showcase Special

John Vojtech

John's 1/32 scale F-15C is a technological and creative masterpiece featuring exquisite scratchbuilt, resin, and photoetched-metal details – and it's wired for lights!

Big, superdetailed, and lighted, this Eagle soars!

He's not a household name, but the international modeling community knows John Vojtech's work – it gets lots of attention wherever it goes. *FSM* readers may recall his AC-130H in the February 2006 issue, or his 1/72 scale B-2 bomber in January 2007. Both were on the cover, and with good reason – his extreme attention to detail and his ability to work with ordinary materials like styrene and brass produce extraordinary results.

Yet John thinks his latest work – a 1/32 scale F-15C Eagle – betters the two previous builds, not only in detail but in scope. If we hadn't seen it, that would be hard to believe. But after ample time to inspect the model in our photo studio, *FSM* staffers think John might be right!

Working with Tamiya's big box of plastic, John decided to open the cockpit, the radome, forward avionics bay, the airbrake, the gun bay, and one of the engines.

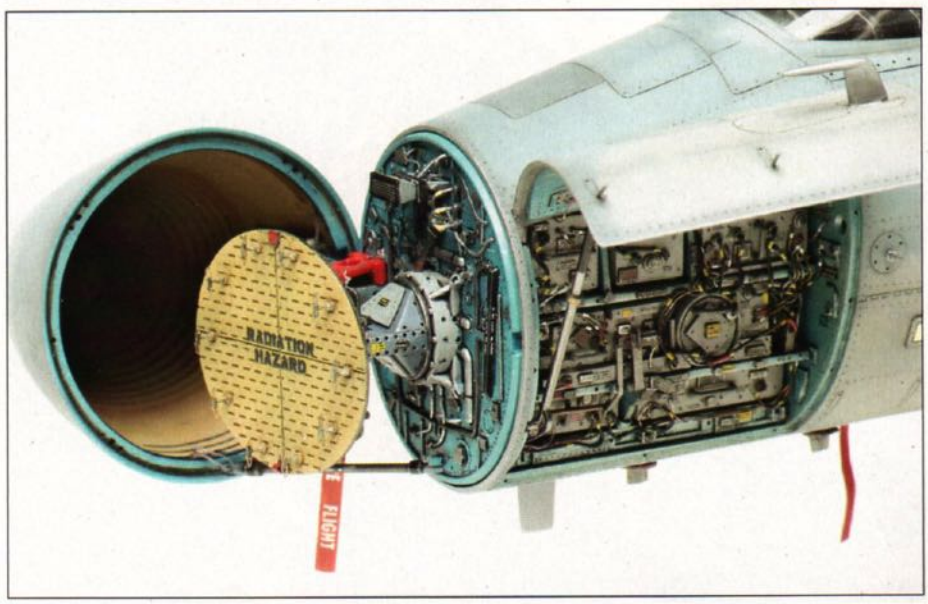
And, as if that weren't enough, he wired the model for landing, formation, navigation, and even cockpit lights – 13 LEDs in all. They are connected by 20 feet of copper wiring and controlled by a computer chip that flashes external lights in their correct sequence. John designed the system, then ordered the components from Richmond Controls, www.richmondcontrols.com, a model railroad lighting company.

John consulted a bunch of references to get the details right, including Jake Melampy's *The Modern Eagle Guide* (Reid Air Publications, ISBN 0979506441) and

hundreds of his own photos taken during a visit with a full-size F-15C.

John did rely on a few aftermarket parts, including an Aires resin cockpit and Eduard's "Big Ed" set of photoetched-metal details for Tamiya's kit, but much is scratchbuilt from Evergreen styrene. New details include the nose radar and electronic bays, the gun, starboard wing hydraulics, canopy hydraulics and locks, and custom wheels flattened to portray weight.

The highlights are the exposed starboard engine and the exhaust nozzles. The engine is completely scratchbuilt with realistic plumbing, wiring, and framing in more than 1,200 parts. The nozzles are always a prominent feature on F-15s, especially those without the turkey feather covers (such as the aircraft John modeled). Not satisfied with the kit parts or the Eduard photoetched metal, he scratchbuilt two nozzles – personally designing more than



Using photographs and other references, John strove to model the full-size Eagle as closely as possible, including wiring the Raytheon APG-70 radar scanner and the nose avionics bays.

In addition to external lighting John wired the cockpit, including the instrument panel. He used an Aires resin cockpit set with Eduard photoetched metal for added detail.

John used LifeColor acrylics to camouflage his F-15C, pre-shading, painting, and weathering each panel individually for a dramatic finish.

660 parts in the process.

The Eagle is painted with LifeColor acrylics. Each panel was individually pre-shaded, painted, and weathered to achieve a striking but realistic finish modeled after an F-15C at Langley Air Force Base, Va.

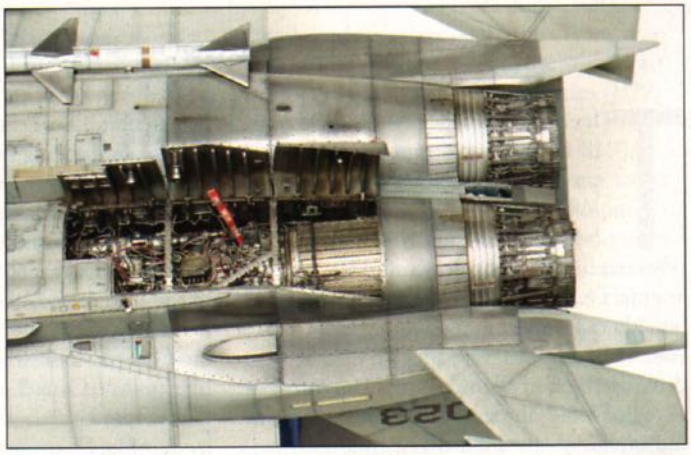
John says the model has more than 5,000 parts and took him 2,075 hours to complete.

His model building philosophy? "It's all about the vision," he says. "One is always looking for ways to exceed the build quality of the previous projects. Lots of thought and soul-searching goes into developing the vision for a great project."

Those who know John's work are anxious to witness that next vision! **FSM**

> THE MODEL HAS MORE THAN 5,000 PARTS AND TOOK 2,075 HOURS TO COMPLETE.

Unhappy with both Tamiya and Eduard's rendition of the Eagle's complex exhaust, John turned to scratchbuilding – there are 664 parts in each!



Speaking of lots of parts, John's scratchbuilt starboard engine comprises more than 1,200 pieces – as accurate as he could make it.

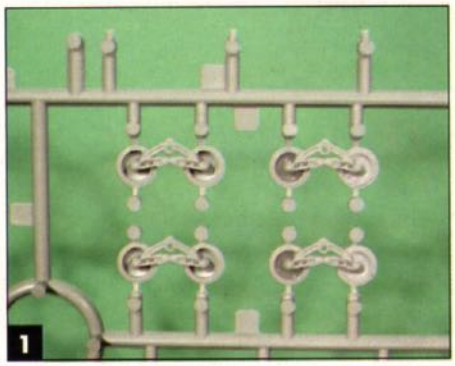
A small model doesn't have to be small on detail. Steve's 1/72 scale Sherman is more accurate and features all-new interior detail.

BUILD A CANADIAN SHERMAN V

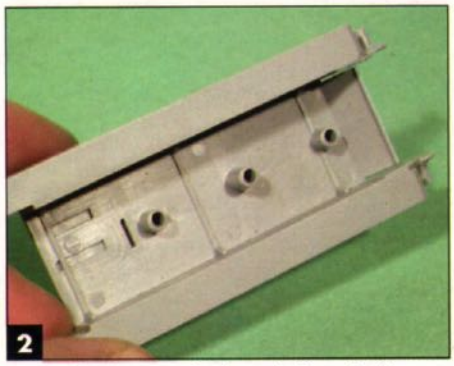
Sharpening Dragon's small-scale Sherman • BY STEVE GUTHRIE

The Sherman V (or M4A4) was one of several versions of the Sherman produced in the USA during World War II. The first versions built, the M4 and M4A1, were powered by a Wright 9-cylinder aircraft engine. Demands for this power plant quickly exceeded supply so alternative sources of engines were sought. One, designed by Chrysler Corporation, consisted of 5 6-cylinder truck engines mounted radially around a common drive shaft. Known as the Chrysler Multibank, its larger size meant the M4A4 hull had to be extended. This extra length shows up in the greater spacing between the suspension units, a handy way to identify the M4A4. The US Army decided to standardize on the M4, M4A1 and the Ford GAA-powered M4A3 so except for some training use in the US, all M4A4 Shermans were handed over to other Allied nations including Great Britain who called them the Sherman V. Canada drew its supplies of tanks from British sources and standardized on the Sherman V although it also used numbers of the Sherman III (M4A2), powered by General Motors diesel engines.

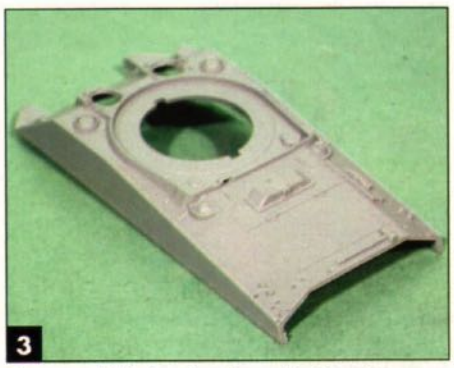
The 1st Canadian Army Tank Brigade consisted of 11th Army Tank Battalion (The Ontario Regiment), 12th Army Tank Battalion (The Three Rivers Regiment) and the 14th Army Tank Battalion (The Calgary Regiment). Originally equipped in the United Kingdom with the British Churchill Infantry Tank, the Calgary Regiment was the first Churchill unit to see action at the ill-fated raid on Dieppe on August 19, 1942. (See FSM December 1998). Afterward, the 1CATB converted to the Sherman V for Operation Husky, the invasion of Sicily in July 1943. Around this



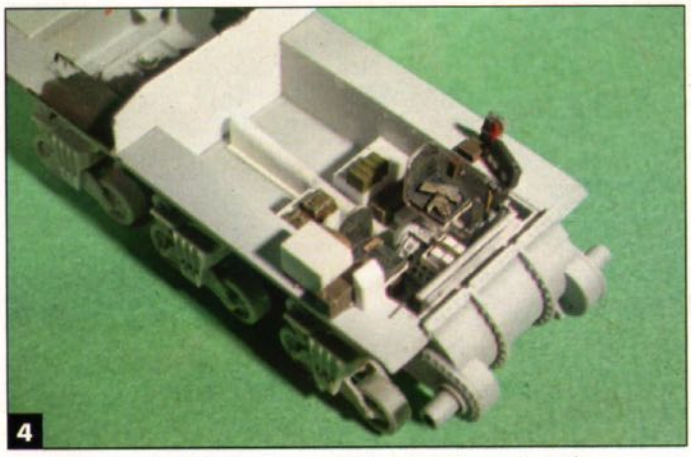
Steve filled the hollow backs of the bogie wheels with 5-minute epoxy to simulate 'solid' construction.



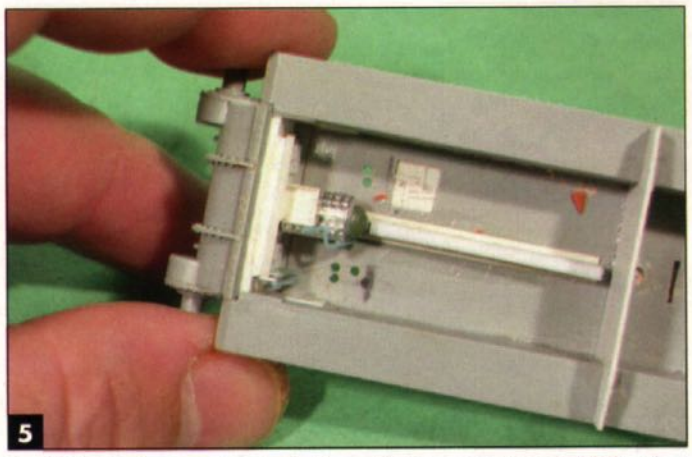
The molded pegs in the lower hull are holdovers from the diecast version of the model that Dragon sells painted and assembled.



The upper hull showing the molded-on pioneer tools and the strip of rivets on the side.



Here's the completed front compartment interior. The seats are from an Airfix truck model, the kitbags and driver's gloves are cut from Airfix and Matchbox figures, and most everything else is made from styrene sheet.



Here's the front compartment. The transmission cover is textured foil and the brake levers are styrene rod. Note the scratchbuilt escape hatch and signs of several attempts to properly locate the supports for seats!

time, the regiments were redesignated Armoured Regiments and the 1 CATB became the 1st Canadian Armoured Brigade. After action in Sicily, the formation crossed to Italy in September 1943 and spent the next 17 months fighting a long slogging match north up the boot of Italy until February 1945. At this point, they left to join the rest of the First Canadian Army in northwest Europe for the final months of the war.

The kit

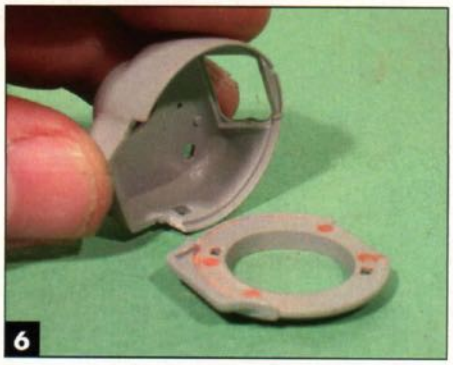
The Dragon Sherman V is a very welcome addition to the supply of small scale armor kits. It follows the release of the Dragon Sherman Vc Firefly kit, and shares a number of parts with it. I'm finishing my model as tank belonging to the 14th Canadian Armoured Regiment (The Calgary Regiment) in Italy in 1943. This means a number of the kit parts aren't needed and a couple more have to be modified.

The suspension units come with the bogie wheels molded in pairs and attached to the rear suspension arm (part C3). While a little unusual, it does guarantee the wheels will be in alignment. The wheels are the "solid" style, complete with grease fittings. Nit pickers may complain all the wheels are molded in the same position i.e. with the grease fittings at 12 and 6 o'clock. The backs are hollow and just in case someone peeks under may finished model, I filled them with 5-minute epoxy, **1**. One nice thing is the way Dragon has engineered the molds so the part line occurs on the edge of the wheel and not down the centre of the tire as is usually the case. Look at the idler wheel and you will see what I mean. I could have replaced the track skids on top of the suspension units with thin styrene or brass but these can be difficult to bend to the same shape six times so I used a needle file to thin down the kit part and it looks fine.

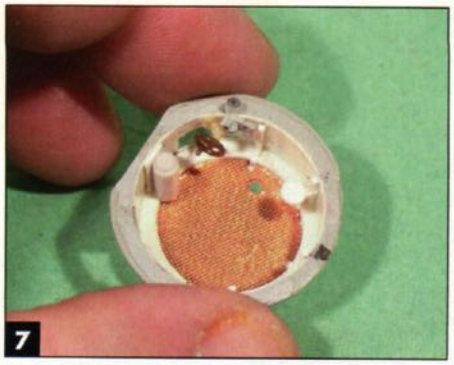
Take care to clean the mold marks off all suspension parts as assembly can be a bit "fiddly" As well, the mounting hole on part C3 and the hole in the centre of the return roller (C5 & C6) must be enlarged a bit. This will allow the two halves to fit together a little neater. Even then, after assembling the suspension units, I had to use a spot of filler on each side to fill a small gap. The kit offers a choice of early and late outer drive sprockets. I used the early ones. In either case, make sure you line up the teeth correctly or the tracks will not fit. I was afraid the simple and rather sloppy idler mounting would not take the strain of the DS tracks, so I reinforced the mounting with a bit of wire.

The lower hull rear plate (A53) is the same as in the Firefly kit and as such does not resemble the plate on earlier production Sherman V's like the one I was building, **2**. For example, there were no smoke dischargers and no tow bar on the early tanks. I simply filed all of the detail off and scratchbuilt engine access doors, hinge details and tow shackle mounts from styrene strip. For some reason, the M4A4 kit sprues only includes 2 tow shackles (B29) and you need 4. Luckily, there are a pair of late model mounts with shackles (B10, 11)included in the box. All you have to do is separate the shackle from the mount.

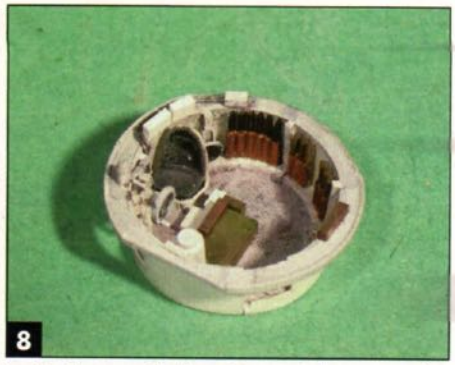
The Sherman V was always fitted with the 3-piece bolted transmission cover. Dragon does a pretty good representation of it in this kit, but there are some problems to deal with. Once again, the manufacturer has made the bolt strip on the top edge of the cover a separate piece (A38), which leave the modeler with a seam to fill. Still, once the bolt strip is attached to the cover, it looks OK.



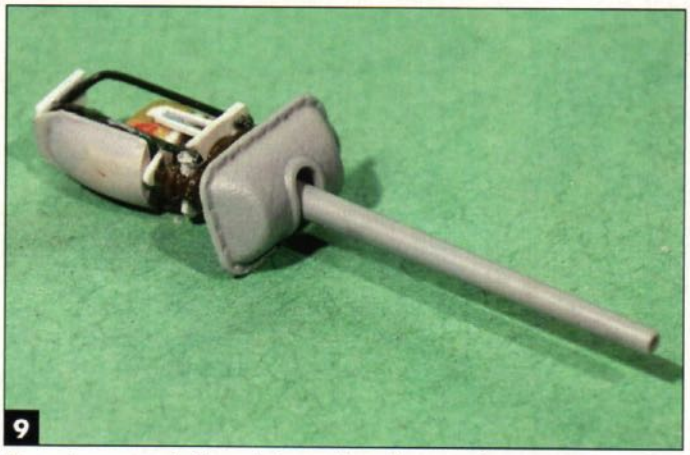
Steve cut the lower part of turret bustle away from the turret ring and glued it in place. The turret ring opening is enlarged.



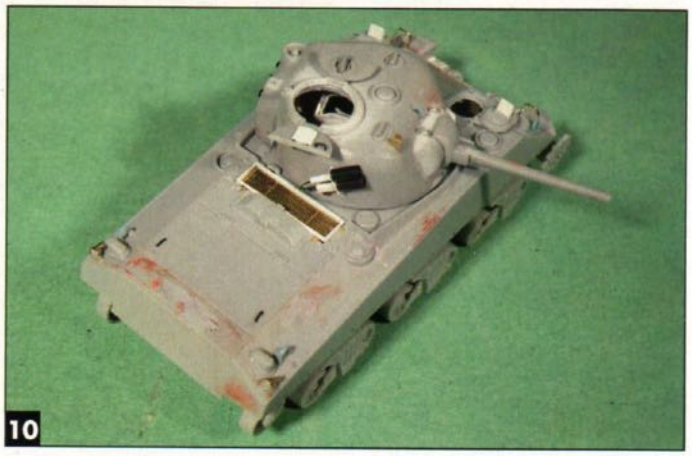
The turret basket sides and sub-floor are made from styrene sheet. The non-skid texture on the floor is simulated with candy-wrapper foil.



Inside the turret basket, the seat is from an Airfix truck kit and the 75mm ready-use ammunition is from the old Nitto M4A1 kit.



The main gun, ready for painting and installation in the turret. It's cratch-built from spares-box gun parts, but it's only detailed on the side that can be seen through the open commander's hatch.



The completed (but unpainted) model. Here Steve has replaced the hoisting eyes with blue styrene rod and installed the kit's photoetched air intake grille and light guards.

There are gaps to be filled at either end of the bolt strip. There is also a gap where the small front fenders meet the bulge on the transmission. I just trimmed away the vertical panel and replaced it with a taller one cut from .010" styrene.

Upper hull

The upper hull comes complete with some of the pioneer tools molded in place, **3**. While these are a vast improvement over similar details in early kits, I still removed them with a chisel blade in my hobby knife. I replaced them with scratch-built items and bits from the spares box with retaining straps from lead foil.

I removed the little square plates molded at the rear of the turret splash ring. This was added to later production Sherman tanks to reinforce a weak spot in the splash ring around a drainage hole. The tank I was basing my model on did not have this plate so I removed it. Using files and sanding sticks, I also removed the strip of rivets along the lower edge of the hull sides. This is supposed to represent a strip of steel that the sand shields could be attached to. In reality, it has a number of holes and not rivets. It doesn't matter in this case as photos of 1 CATB Shermans show no evidence of the strip, rivets or no rivets. What they did have are a series of small square projections on the bottom edge of the hull. I made these from .010" styrene. I cut out the molded air intake grille and used the kit PE part which fits perfectly On top of this, I mounted the base for the deep wading trunk made from styrene strip. I replaced all the hoisting eyes (A34, B14) with styrene rod bent to shape. I find this is easier than trying to remove flash cleanly from the kit parts. I used the kit PE headlight guards but did not mount the headlights.

Photos show 1 CATB Shermans carried a couple of spare track links wired to the guards so I duplicated this using the spare links supplied with the kit. Why these were carried on top of the headlight guards I have no idea. I made a tow cable from lead wire fitted with the kit cable ends.

Interior

When scratch building an interior for a tank model, especially a small scale one, I try to determine how much detail can be seen through the open hatches. There is no point, in my mind, doing a lot of work that will not be seen on the completed model. By the same token, you don't want to miss something obvious.

The first thing you must do is saw off the front two pegs molded inside the bottom of the lower hull. I am told these are a hold over from the metal diecast version of this model. I decided you could see most of the front compartment through the driver's and co-driver's hatches, so the interior here is quite complete, **4**. The seats and some of the stowage are from the spares box, but most everything else is built from styrene rod, strip and sheet. The transmission is a short section of styrene tubing wrapped with a piece of textured foil from a candy wrapper, **5**. (Such wrappers as well as cigarette packaging often display some fine texture useful on small scale models)

Straight from the box, the bottom of the turret bustle is molded to the turret ring (A10), **6**. As I was building an interior for the model, I wanted to have all the work on the outside of the turret done before I started adding parts to the inside. I separated the bustle bottom off the turret ring, and cemented it in place. I opened up the turret ring then used it as a basis for building the turret basket.

The floor is a disc of .020" styrene covered with, yes, textured foil from a candy bar wrapper, **7**. On real Shermans, the turret basket sides are expanded metal screen, but in this scale I used .010" styrene, **8**.

I scratchbuilt the M3 75mm gun and sighting gear, **9**, a 19 set radio, the commander's two flip-up seats and a number of stowage boxes, then added a the gunner's seat and the ready use 75mm ammo from the spares box.

I added some shims to the back of the gun mantlet as it seemed to sit too deep into the front face of the turret. According to my references, it should sit flush or slightly proud of the surface. I used the main rotor shield with the "ears" on either side of the gun barrel and I carved the auxiliary rotor shield for the coaxial MG from styrene scrap.

I replaced the mantlet lift rings (A44) with ones made from wire. I also replaced the three turret lift rings with styrene rod. I added handles to the commander's hatch flaps and tie-downs to the turret bustle from stretched sprue. For interest's sake, (and because I could) I mounted the pistol port/shell ejection port door open. I scratchbuilt a pair of 4" smoke dischargers and mounted them on the right side of the turret, **10**. Widely used in Italy, these were seen less and less as the war went on. They were notorious for getting snagged on tree branches and over-hanging wires. Later model Shermans had a 2" smoke discharger mounted inside the turret.

Stowage consists of a pile of rolled tarps lashed to the rear deck and a couple of jerry cans. The tarps are painted and weathered foil. The lashing rope is fine lead wire. The two jerry cans on the rear plate are from a long forgotten kit but come molded in halves. This allowed me to place a separator of .050" styrene between them to simulate the prominent seam these cans displayed.

Painting

I airbrushed the model with a coat of Tamiya olive drab lightened with Tamiya dark yellow. The unusual disruptive camouflage pattern was applied with Tamiya Nato black. Some portions of the pattern show a lighter outline. I don't know whether this is paint or a buildup of dust. There are some suggestions it was the remains of a chalk line defining the areas to be painted black. Whatever it is, I simulated it using a light gray watercolor pencil.

With the paint scheme finished, I airbrushed the model with a coat of Future as a gloss base for the decals. Aleran Decals makes 1 CATB markings in this scale, but I was running short of time to order them so I used bits and pieces from my decals spares box and Woodland Scenics dry transfer lettering for the markings. When these were dry, I sprayed another light coat of Future to blend all the decals into the finish. At this point, I painted the bogie wheel tires gray then added the tracks which I airbrushed a rusty brown shade. By doing this after gloss coating the model, I think it gives a different texture to the tracks and the bogie wheels. At this point, I applied a pin wash of black and burnt umber oil paint to recessed areas on the model then drybrushed the model with a lightened shade of the basic paint.

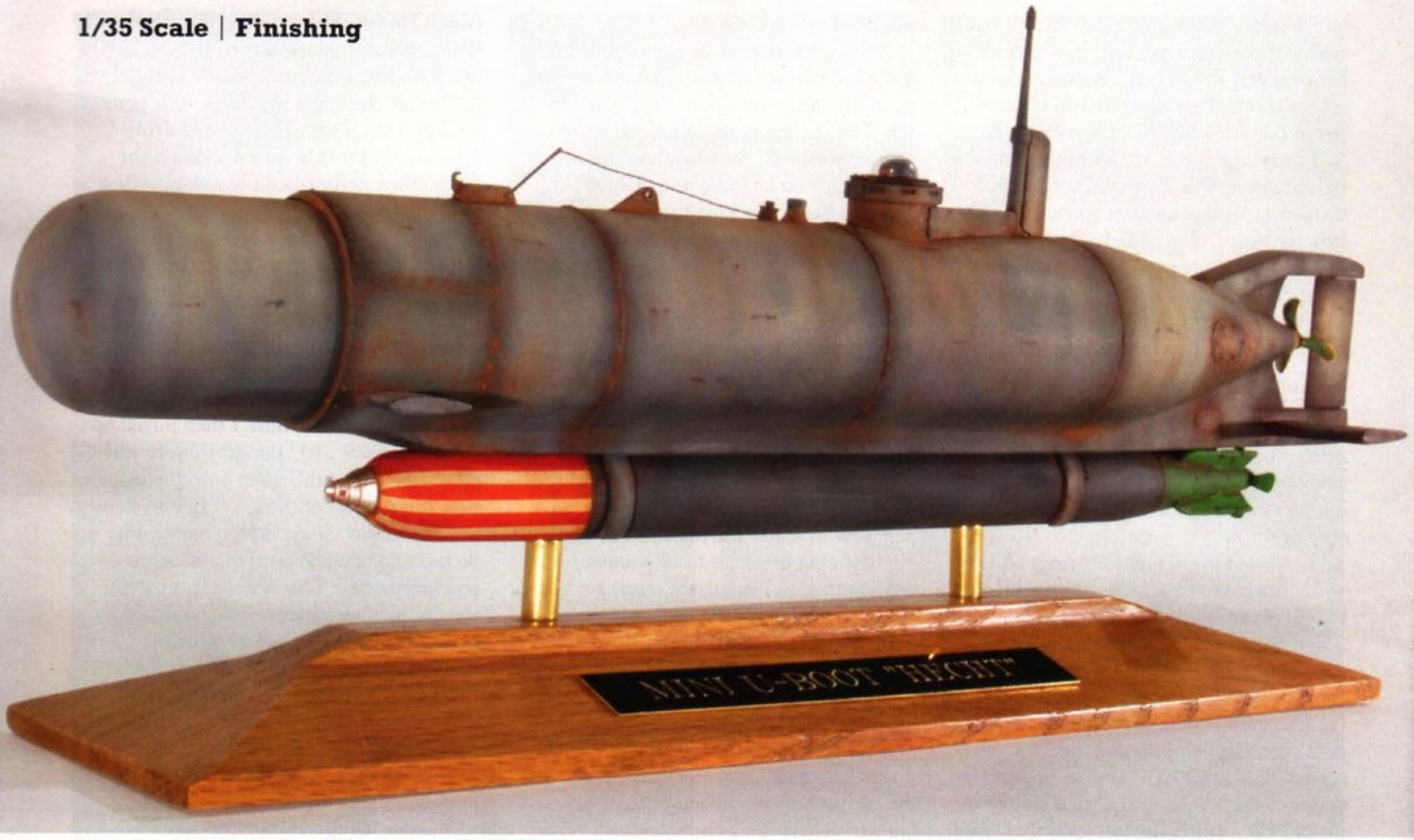
Now I airbrushed a filter coat of some Testors flat finish, Tamiya buff, and lots of windshield washer fluid to even out the finish and tone down the brightness of the colors, especially the markings. Next I airbrushed some more heavily thinned buff onto the suspension and lower hull to simulate a heavy coat of dust. I then mixed up some pigments with Tamiya thinner and brushed some of this goop onto the suspension and the rest of the lower hull to show a buildup of dirt. Some dry pigments were flicked and brushed onto the suspension and hull as dust. This is done in a patchy, streaky, blotchy pattern best duplicated by examining photos of actual vehicles.

Finally, I added radio antennas made from guitar strings and a pennant from foil. The base is a simple wooden plaque with some earth texture added from acrylic modeling paste, some static grass, a shot-up road sign made on my computer, **11**.

Making all this extra effort worthwhile, my Sherman V won a gold medal and the "Best Commonwealth Armor" award at the 2007 AMPS National Contest in Maryland. **FSM**

The oversized scratchbuilt 4" smoke dischargers were replaced with smaller pieces before painting. The periscopes on the front hatches are styrene strip.

11



World War II Germany's Type XXVIIA minisub, the Hecht (Pike) carried either a detachable mine or a torpedo for action in enemy harbors and coastal waters. The tiny two-man vessel never saw combat – but Verlinden's resin kit was a perfect palette for Dennis' masterful finishing techniques.

Paint and weather a RESIN MINISUB

An artistic approach makes a Hecht of a model!

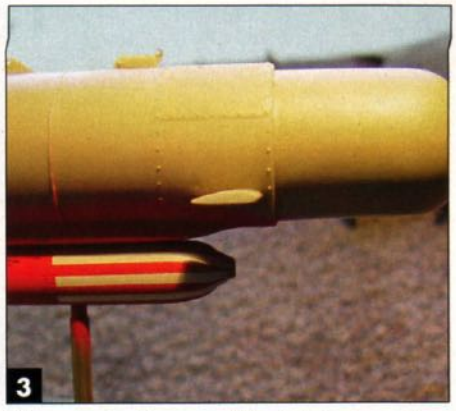
BY DENNIS GERBER

The German midget submarine Hecht was intended to sneak past anti-submarine nets and other harbor defenses. It was inspired by Italy's swimmer-guided torpedoes (called Maiale, or Pig). The Hecht, carrying a single torpedo, should have represented an upgrade – at least the two-man crew was inside, rather than outside the craft – but, with little range and poor maneuverability, it proved more dangerous to its crews than the enemy. Three prototypes were built but none saw action, although they were used for training.

Despite their obscure role in the naval annals of World War II, a series of German minisubs was replicated in 1/35 scale resin kits cast by Verlinden. I wanted to try some new painting techniques, and the Hecht provided a great canvas for experimentation.

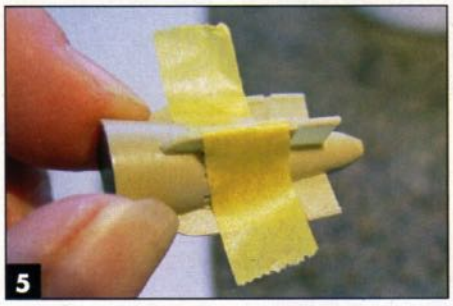
The kit contents after Dennis cut off the resin pours: The castings themselves are smooth, clean, and crisp. There's not a lot to the construction, but plenty of painting lies ahead.

First, resin parts should be thoroughly cleaned; Dennis used Polly S Plastic Prep. After drilling holes through the torpedo and into the hull, he used brass tubing to mount the model on a Tamiya painting turntable. Dive planes are attached with smaller brass tubes.

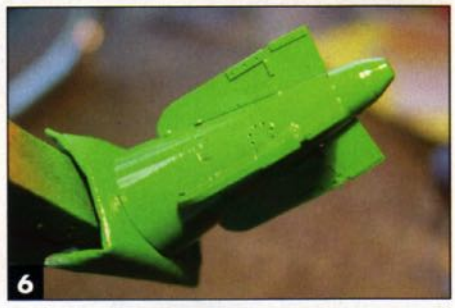


After spraying the nose of the training torpedo white, Dennis masked and sprayed red for bright stripes that would stand out against the sub's weathered hull.

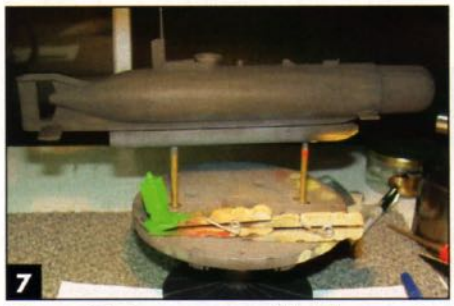
A hole punch produced a circular mask for Dennis to spray the torpedo's nose with Alclad aluminum.



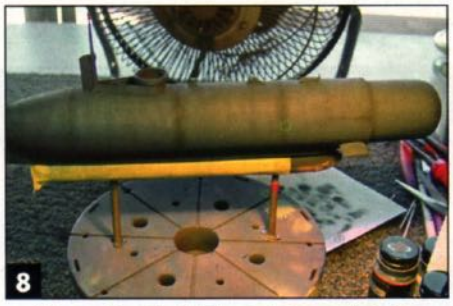
Dennis aligned the fins at 90 degrees and super glued them ...



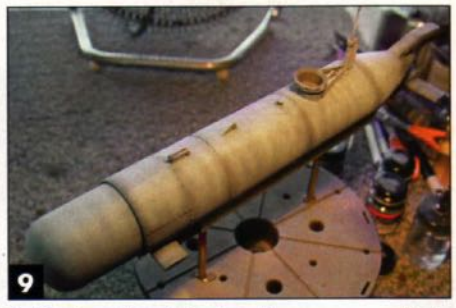
... then painted the part Model Master sublime green.



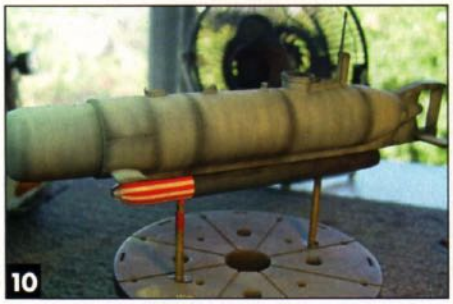
"These minisubs spent most of their lives out of water on blocks," Dennis says, "so I wanted to make mine good and rusty." He masked off the torpedo, then airbrushed Model Master black enamel overall ...



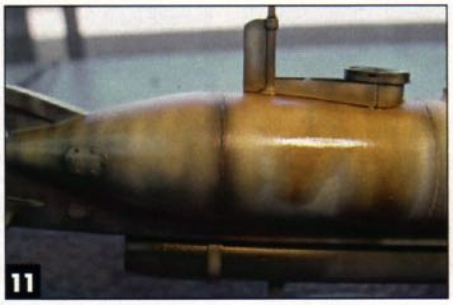
... followed by Model Master intermediate blue airbrushed in downward streaks while pre-shading by leaving black at the panel edges.



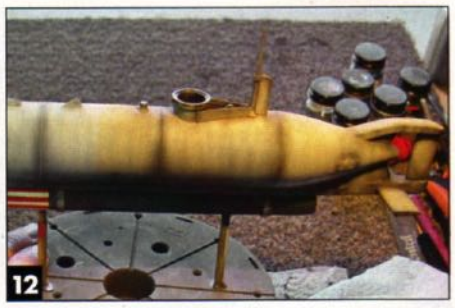
Lighter, translucent shades of gray were applied in streaks to depict weathering and vary the monochromatic hull.



Dennis airbrushed more than a dozen light and dark grays, with lighter hues on top to represent sun-faded paint.

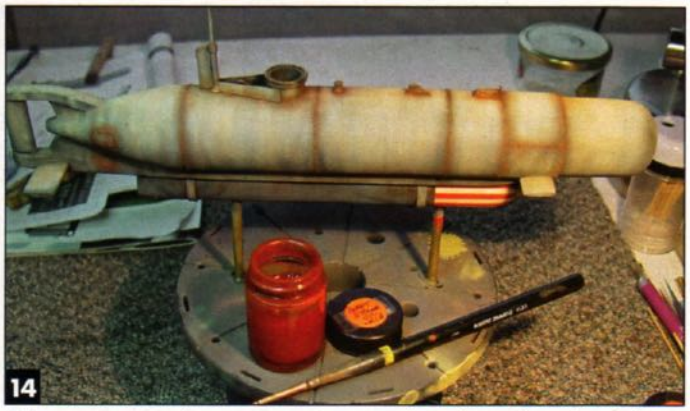


Next came filters that would accumulate to deepen the weathering. The first is burnt umber artist's oil thinned with Turpenoid.

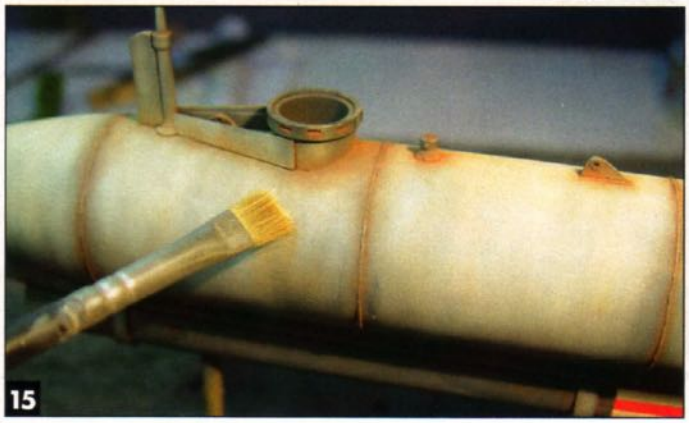


The aft portion shows the effect of the burnt umber filter.

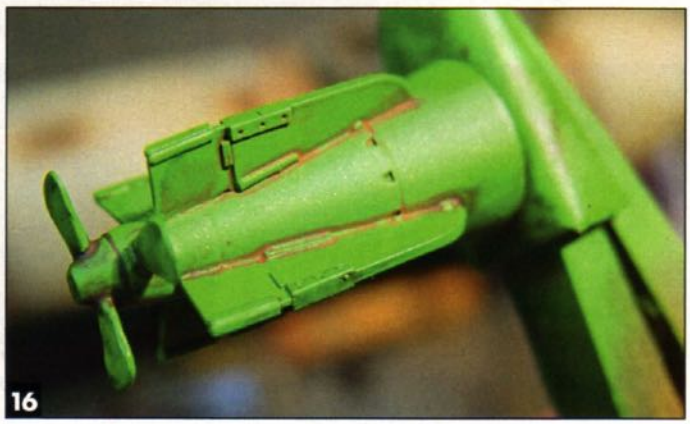
Using a fine brush, Dennis applied a thin mix of burnt umber and burnt sienna oils to seams and edges.



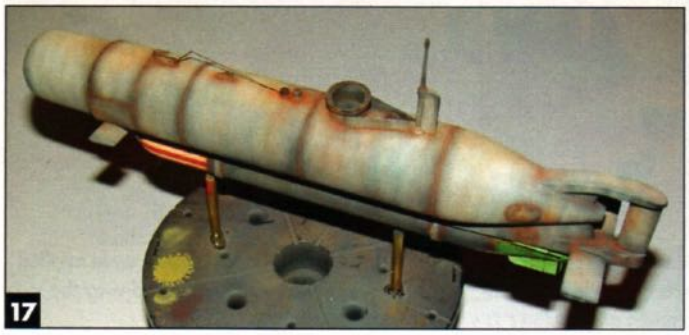
"Time to get seriously rusty," Dennis says, selectively applying thinned burnt sienna.



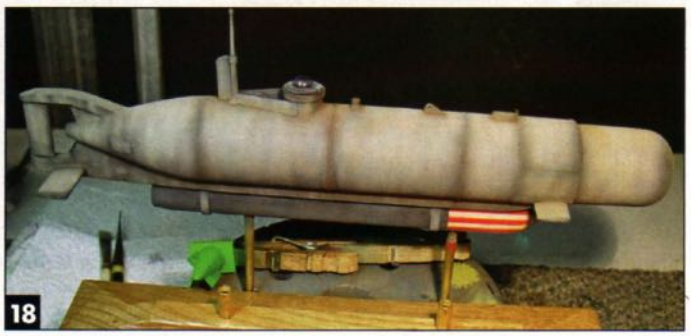
Turpenoid applied with a broad brush further blends the colors.



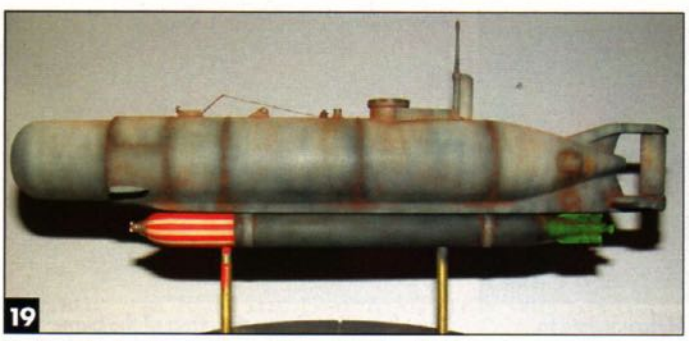
Dennis applied filters and pinwashes to the aft torpedo section, too.



After blending with Turpenoid, Dennis added more burnt-sienna rust. "Now that's more like it!" he says.

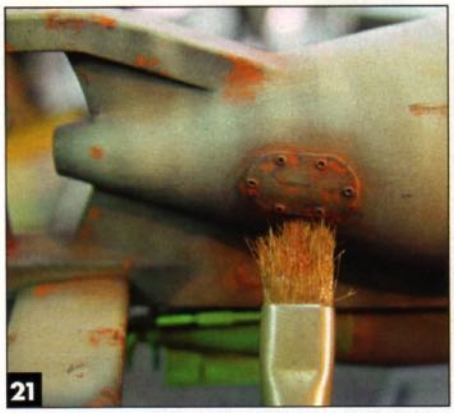


Dennis drilled holes in a wood base and mounted the sub on telescoping sections of brass tubing.



Rubbing his forehead, then rubbing the oil on his fingertips onto the model surface, Dennis gave the hull a subtle sheen.

Vallejo burnt umber, dark grey and German grey acrylics, thinned with water, provide fine scratches here and there. "Don't overdo it," Dennis says.



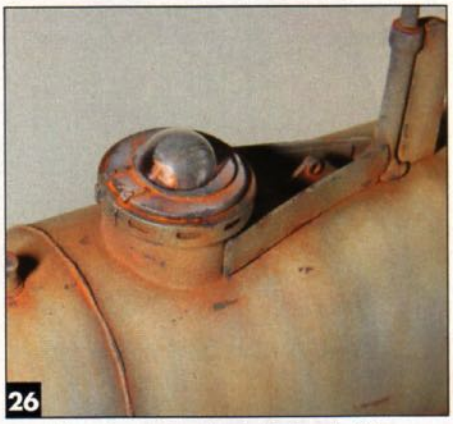
Scratches needed rust, too; Dennis applied more burnt sienna to them and blended with a stiff, Turpenoid-laden brush.

The hatch, with its vacuum-formed canopy, got the same paint treatment.

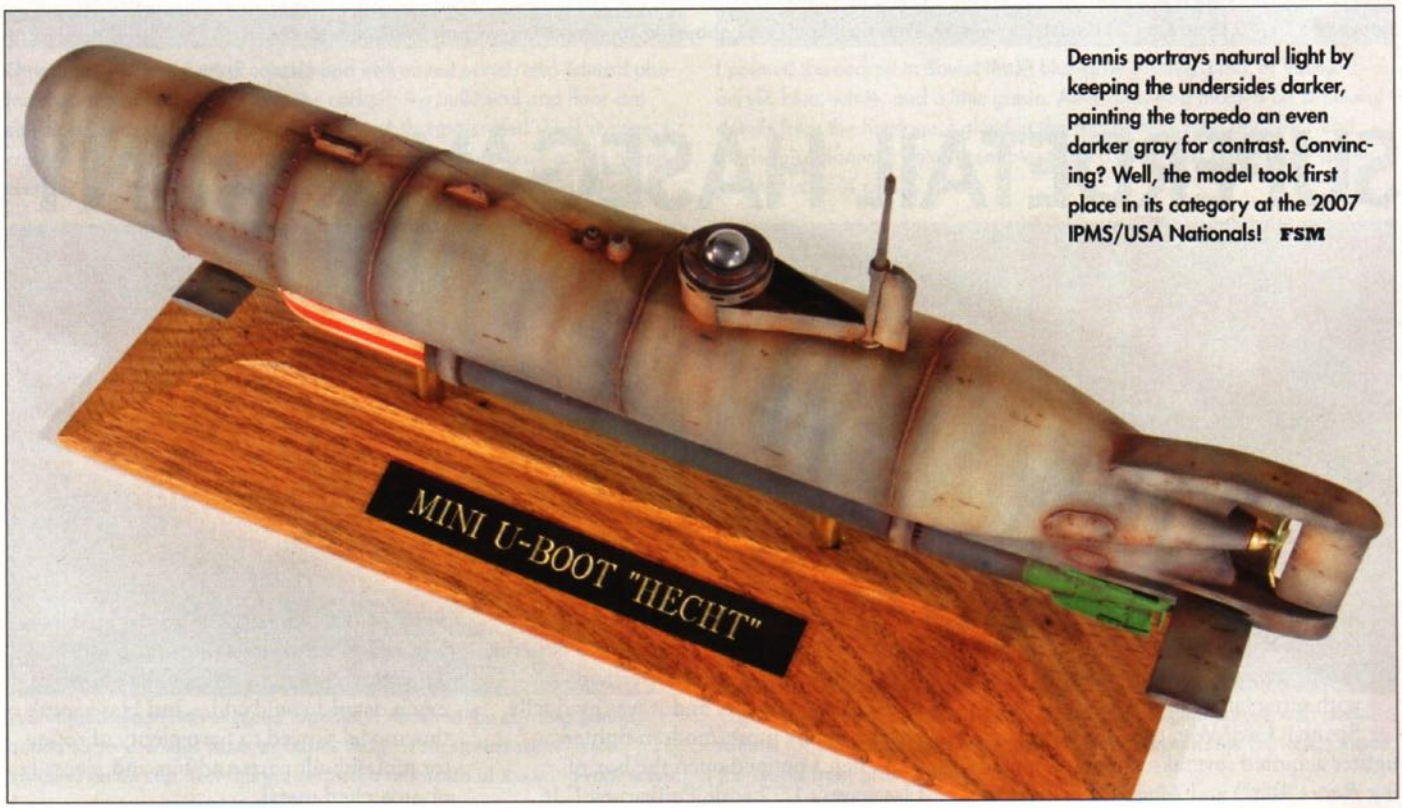
The propeller is encrusted with airbrushed Model Master brass followed by hand-painted Vallejo park green and finished with a filter of burnt sienna.

After a base coat of Model Master flesh, Dennis hand-brushed the pilot's diving suit and helmet with Vallejo German dark grey ...

... followed by a raw umber oil wash. Then he dry-brushed Model Master anthracite gray lightened with white oil ...



... and stationed the pilot in the hatch. "How would you like to have been this guy?" Dennis wonders.



Dennis portrays natural light by keeping the undersides darker, painting the torpedo an even darker gray for contrast. Convincing? Well, the model took first place in its category at the 2007 IPMS/USA Nationals! **FSM**

To depict a Soviet Polikarpov I-16 Type 28 as part of the 45th Fighter Division near Odessa in 1941, Rogério added a slew of scratchbuilt detail to Hasegawa's 1/72 scale Type 24 model. He says the Web site http://vvs.hobbyvista.com/modeling was an invaluable source.

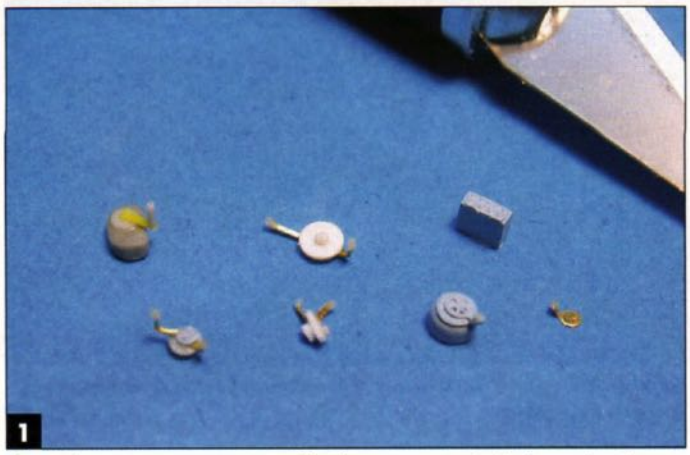
SUPERDETAIL HASEGAWA'S TINY Polikarpov I-16

Scratchbuilt and photoetched-metal parts improve a World War II fighter

BY ROGÉRIO "RATO" MARCZAK

Introduced in the mid-1930s, the Soviet Union's Polikarpov I-16 was the first cantilever-winged monoplane fighter with retractable landing gear. In the Spanish Civil War, the diminutive fighter acquired several nicknames, including *Rata* ("Rat") and *Mosca* ("Fly"). At the start of World War II, it made up nearly two-thirds of the Soviet air force. However, poor performance against Germany's Bf 109 sealed its fate and it was gradually phased out by more-modern fighters.

When I popped open the box of Hasegawa's 1/72 scale Polikarpov I-16 Type 24 (kit No. AP28), I'd imagined a fast, fun, and mostly out-of-the-box build. A little research, though, revealed just how much detail I could add – and Hasegawa's tiny model proved to have plenty of room for scratchbuilt parts and bits and pieces of photoetched metal.



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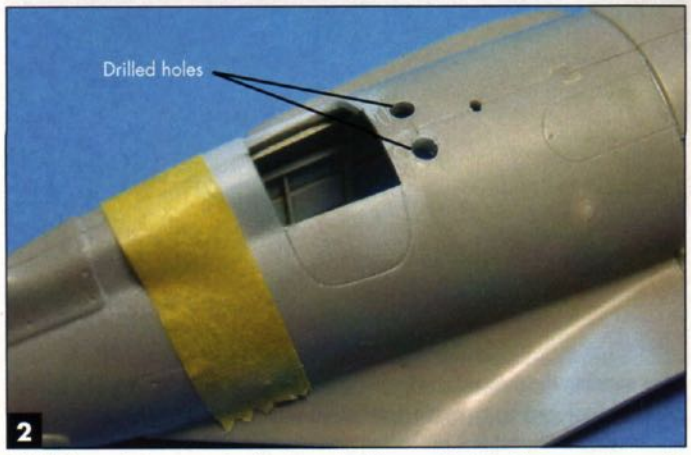
The cockpit contains many scratchbuilt components, including a throttle quadrant, various handles, and a landing-gear retraction crank made from styrene, brass, and photoetched metal.



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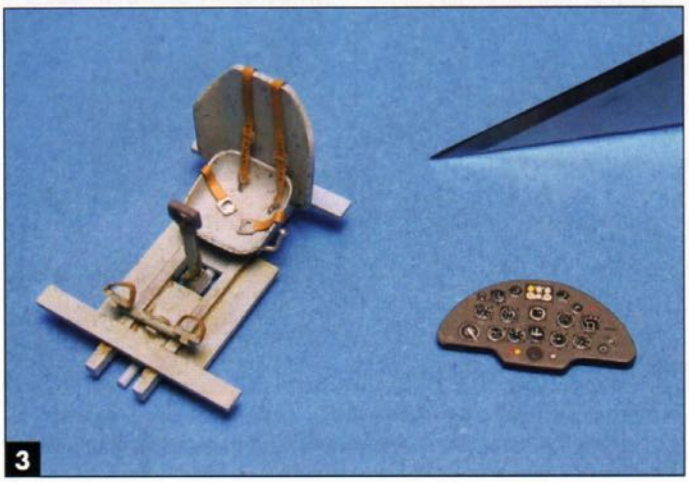
I drilled two holes atop the fuselage (which provided the instrument panel's only light). Later, I'll remove the port-side pilot's door to make room for a scratchbuilt one.



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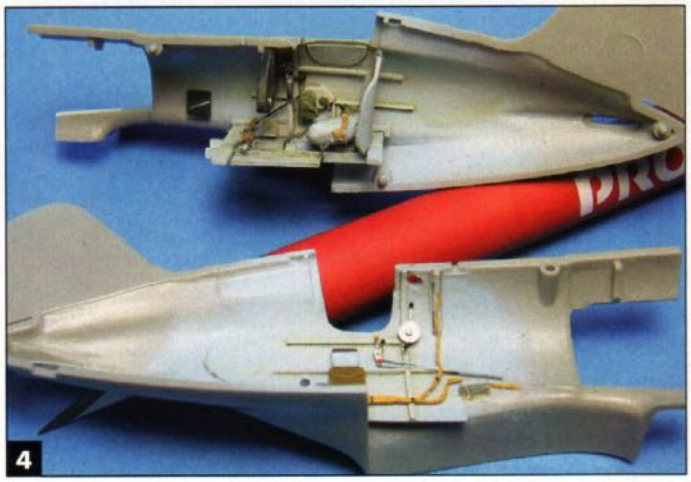
Other than the kit's control column and instrument panel, and Eduard photoetched-metal seat belts, I built the cockpit: the bulkhead and floor are sheet and strip styrene with a pilot's seat of thermoformed sheet styrene. I created glass for the dials with a drop of Pledge Future floor polish, weathered the cockpit with a wash of artist's oils, and chipped with a 4B pencil.



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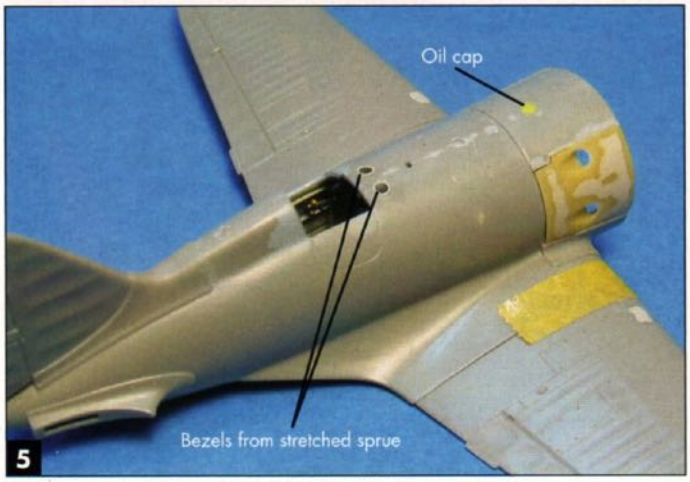
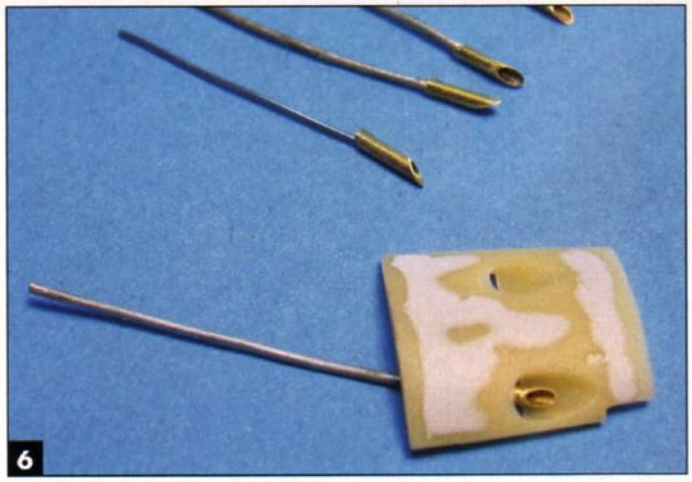
I painted the cockpit in Soviet IMUP blue-gray primer, a mix of Vallejo acrylic blue, white, and a little green. After removing molded-on structural details from the fuselage, I glued in the cockpit bulkhead and floor and made miscellaneous detail from plastic card as well as fine copper wiring painted various colors.



5

With the fuselage halves glued together, I attached the cowling panels, added surface details (such as bezels made from stretch sprue), and installed an oil cap. Test-fitting revealed a mismatch at the wing-root seam. A sprue spacer attached to the bottom of the fuselage took care of it.



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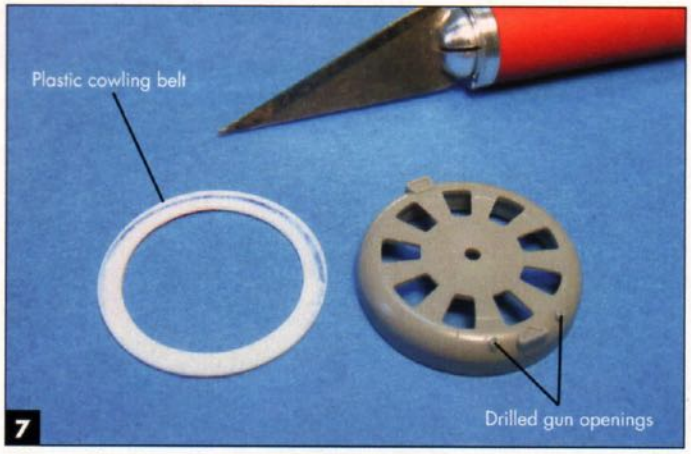
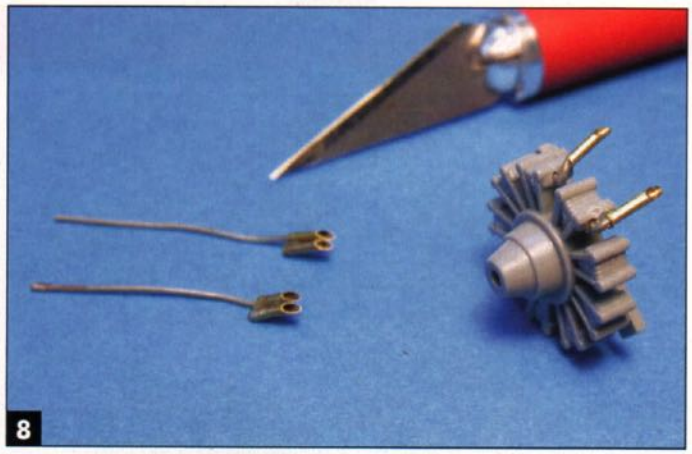
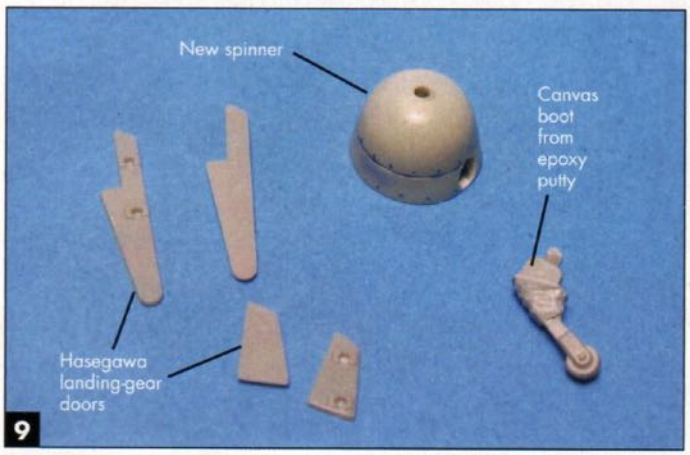
Copying parts from an ICM I-16 kit, I cast resin engine panels with perforations for the exhaust stacks as well as a vent around the firewall. I made the stacks from brass tubing.



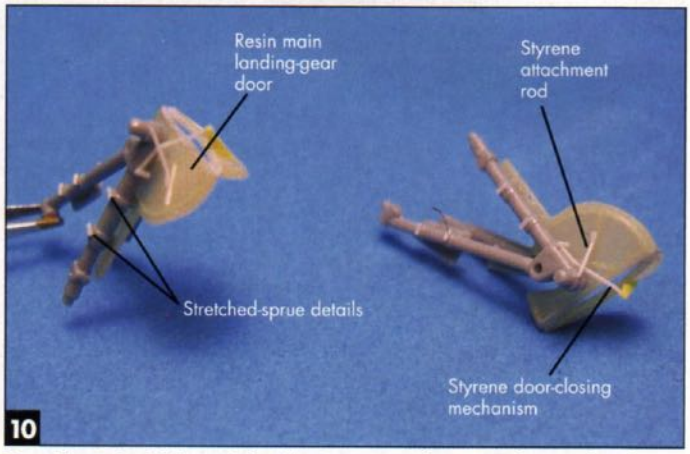
After sanding the molded cowling belt from the fuselage halves, I made a new belt by inserting a plastic ring between the fuselage and front cowling. I painted the belt, engine, and front cowling separately, gluing them on after major painting. I also drilled gun ports in the cowling.



Before installing the exhaust stacks in the engine, I made exhaust-stack supports from solder.



Using ICM parts as masters, I cast a resin spinner as well as main landing-gear doors and wheels. I detailed the spinner with panel lines, rivets, and a back plate to enclose the propeller blades. I used Hasegawa's secondary landing-gear doors, thinning them with sandpaper, and sculpted a canvas boot from epoxy putty for the tail wheel.



To replicate the I-16's main landing gear, I made an attaching rod and a door-closing mechanism from styrene, adding various stretched-sprue details.

PAINTING & WEATHERING

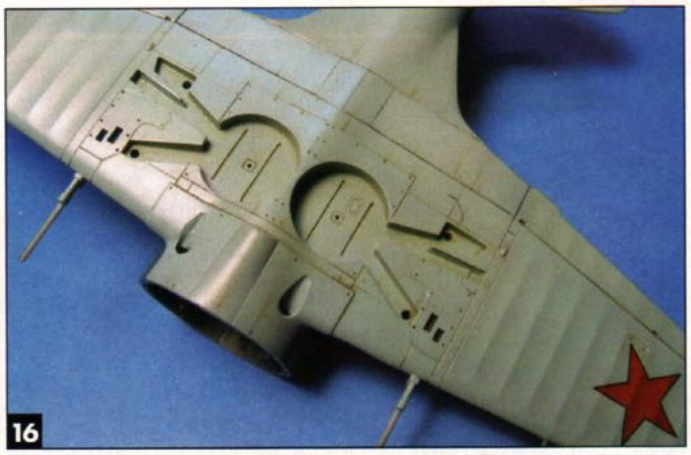
After priming selected areas and pre-shading with acrylics, I attached the landing-gear doors to the struts with slow-setting super glue, which allowed plenty of time to test-fit the airframe's stance. The pitot tube is made from a hypodermic needle.

Finally, I wiped the model clean and was ready to paint. To replicate the I-16's blue underside, I tested various colors but settled on Revell 49 (Model Master 1108).

I captured the top side's green with RLM 82 automotive lacquer mixed with a little yellow.

A coat of Future prepared the plane for decals. Because most of Hasegawa's markings were inaccurate, I turned to my spares box, modifying the number 4 and cutting lightning bolts from a solid white decal sheet. I used the kit stars, even though they were very thick.

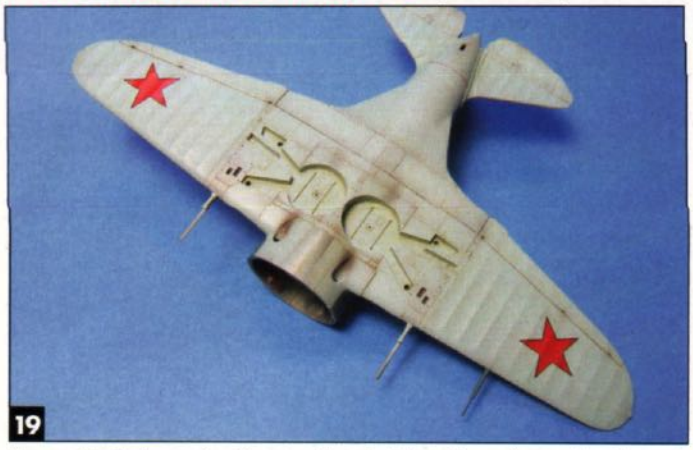
To prepare the plane for a series of oil washes, I post-shaded targeted areas light green and applied Future. After thinning paints with Testors Brush Cleaner, I washed the access panels with burnt umber, the cowling panels with burnt sienna, and the control surfaces with dark brown.



Using a flat brush, I added oil and fuel leaks to the underside by dragging small amounts of oil paint in the direction of the airflow.

To replicate gloss panel fading, I applied Testors Model Master Dullcote on top of the wing roots, which received the most crew traffic, as well as behind the engine, around the landing gear, on the horizontal stabilizers' underside, and on the fuselage's underside.

I added a gloss finish with Testors Model Master Metalizer, as well as a semigloss finish with a mix of Metalizer and Dullcote to targeted areas.



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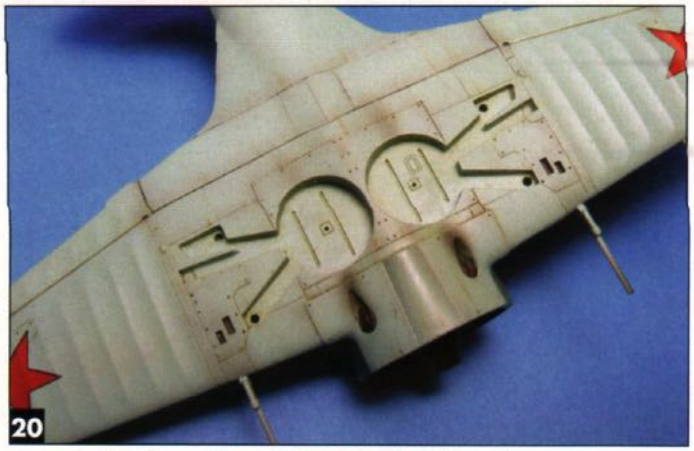
To post-shade the underside as well as the hinge lines of control surfaces, I airbrushed equal parts of Tamiya black and brown thinned with 95 percent isopropyl alcohol. To simulate exhaust stains, I airbrushed Gunze Sangyo Aqueous soot (No. H343) on the underside and main landing-gear doors.



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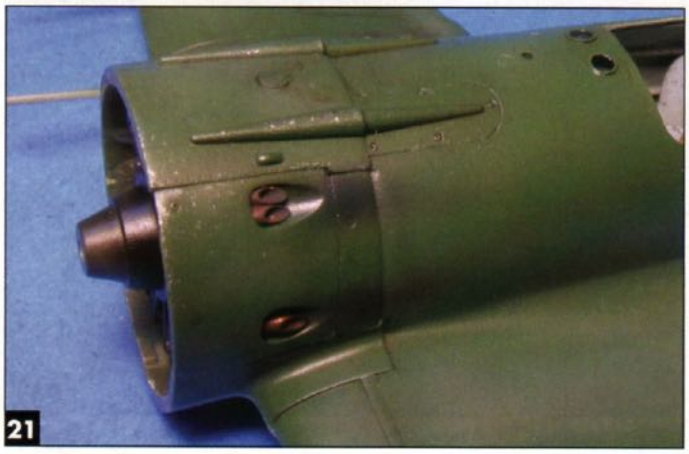
On the underside, I replicated the effects of small rocks hitting the airframe on takeoffs and landings by chipping with Faber Castell and Prismacolor metallic pencils. Topside, I chipped the borders of the engine and cannon panels, as well as the stabilizers' metal fairings, rivets, and edges. I didn't chip everywhere, though, because the I-16 had a lot of wood parts.



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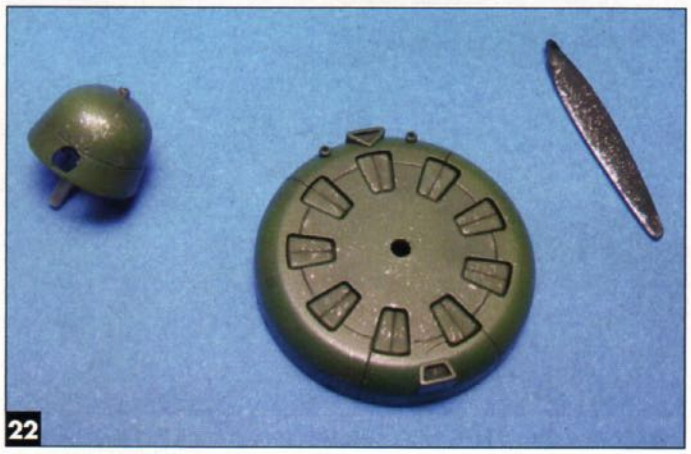
For heavier chipping on the cowling panels, I dipped pieces of coarse and fine-grade sponge in Vallejo Model Air No. 62 (aluminum), Acrilex silver Indian ink, and thinned Gunze Sangyo No. 211 lacquer. After removing excess paint, I dabbed the sponge on the cowling panels.



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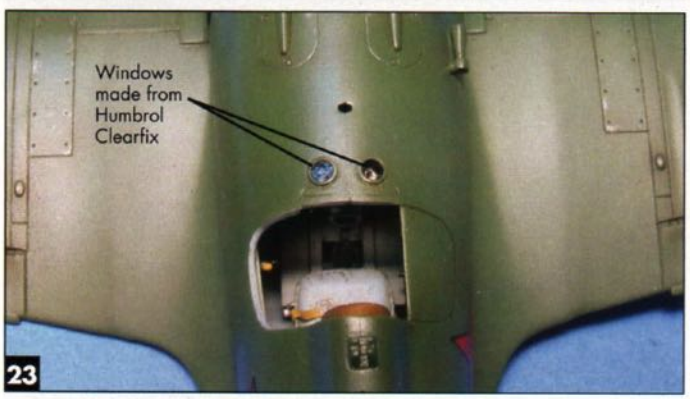
After painting the faces of the propeller blades with Gunze Sangyo chrome metalizer, and the back sides flat black, I sponge-chipped the spinner, nose, and blades.

FINISHING UP



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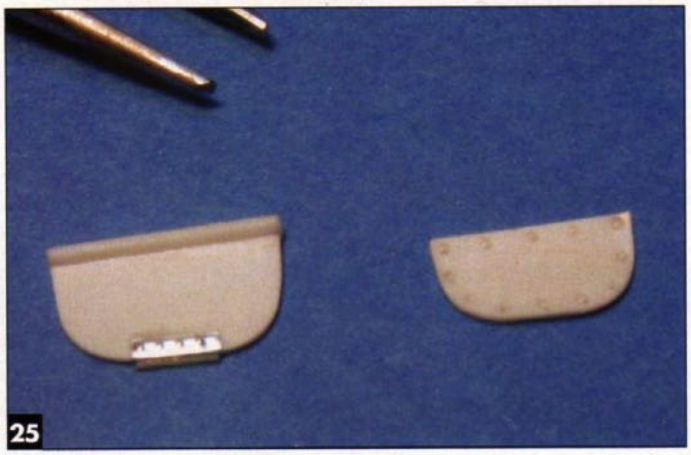
Humbrol Clearfix created windows for the control panel's illumination holes; spare plastic bits and a photoetched-metal ring produced a gunsight.

24

I added rivets along the inside of the windscreen bracing, masking it with Tamiya tape and using a .13mm technical pen to apply dotted lines along the unmasked bracing. I airbrushed IMUP blue-gray primer (a mix of blue, white, and green) over the clear part, then a mix of Testors Metalizer aluminum and Metalizer sealer to prevent paint from lifting when the masks were removed.



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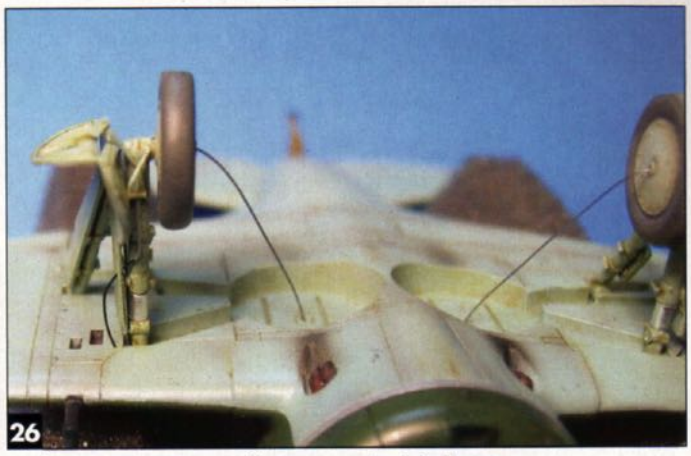
I scratchbuilt a pilot's door from plastic sheet, using a beading tool to add embossed grommets to the cushion.



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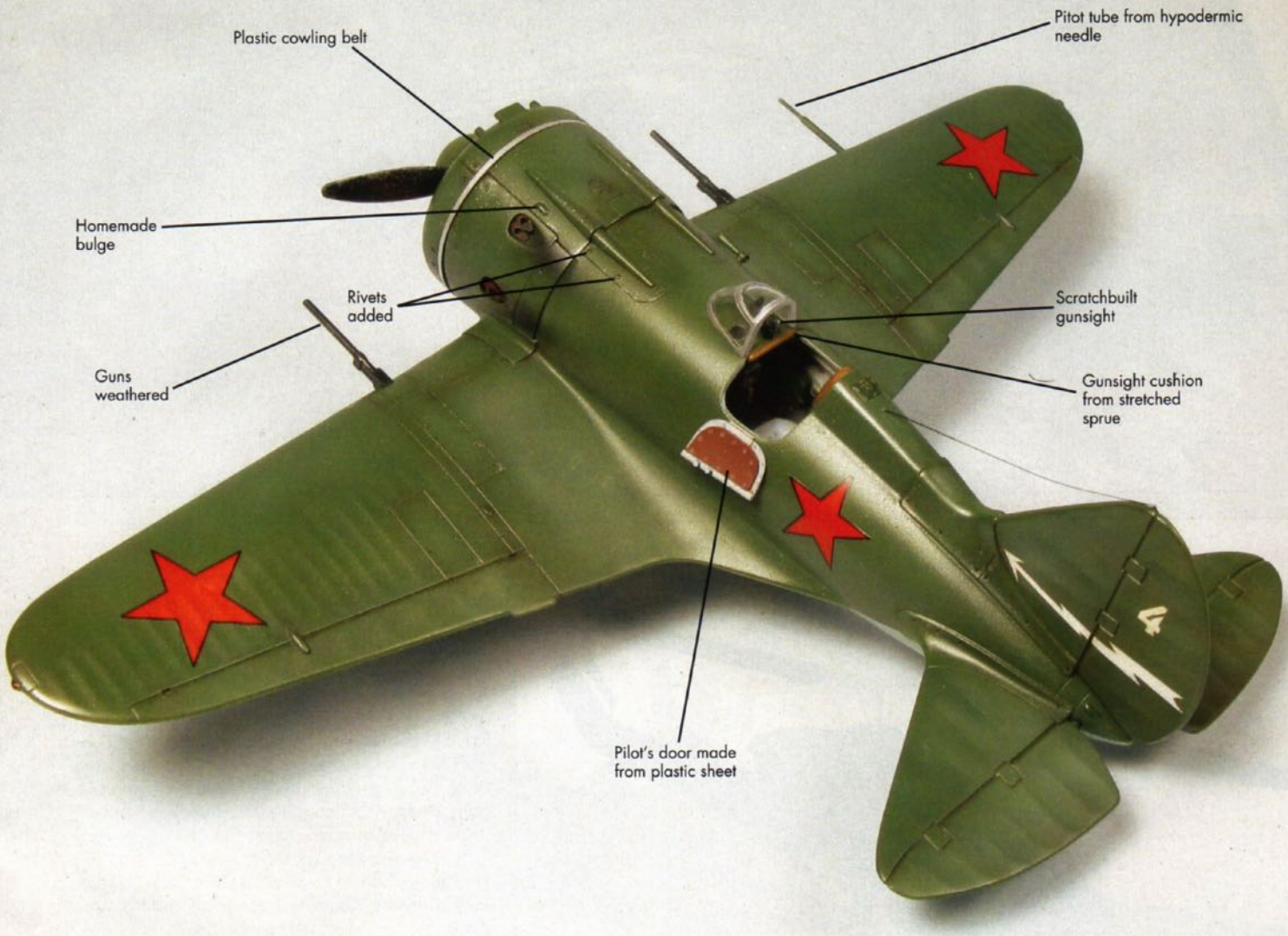
Landing-gear retraction cables are stretched vinyl sprue.



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To complete Hasegawa's 1/72 scale Polikarpov I-16, Rogério attached a gunsight cushion made from curved sprue, then painted the wing cannons gunmetal and weathered them with a Tamiya silver set. FSM

Reader Gallery

▲ DONALD LICHAY
AURORA, ILLINOIS

To depict U.S. 82nd Airborne paratroopers boarding a C-47 the night before D-Day, Donald posed Monogram's 1/48 scale Skytrain on a homemade airfield. "After building quite a few tarmac bases, complete with cracks in the pavement, I've got it down to a fine art," he says. He strung an antenna of Trilene fishing line, applied a *"Fatso"* decal from SuperScale, and added markings from Eagle Strike. Using paratroopers from the kit and Czech Master, he repositioned some of the heads and arms and equipped the figures with guns, packs, and other accessories from Tamiya's 1/48 scale Military Miniatures line. The 2½-ton truck is from Tamiya, the jeep and its occupants from Hasegawa. Donald finished the scene, including the C-47's invasion stripes, with spray-can paints.

◀ MASON DOUPNIK
CORONA, CALIFORNIA

To model an early version of the AH-1T his father piloted, Mason modified Italeri's 1/48 scale Cobra by fixing the rotor blades, rescribing surface detail, and replacing the nose with one from Fujimi's AH-1J. Fireball Modelworks produced custom decals based on photographs from Mason's dad.

SUBMIT YOUR PICTURES!

Shouldn't your model be in Reader Gallery? *FineScale Modeler* is always accepting new material from around the world. See the bottom of Page 6 for submission guidelines.

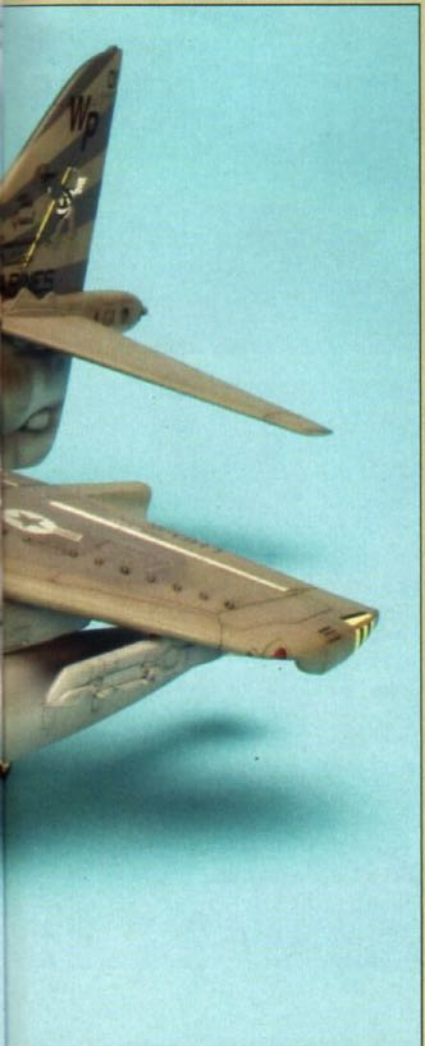
▲ **CHRISTOPHER TOWNSEND**
PETERBOROUGH, ONTARIO, CANADA
Attempting to model all the main battle tanks in active service, Christopher built Tamiya's 1/35 scale Challenger 2 (desertised), converting it for Operation Joint Guardian (KFOR), NATO's peacekeeping force in Kosovo. He painted the tank with Model Master acrylics, then weathered it with Winsor & Newton oil washes and Polyfilla mud.

▼ **HANCHANG KUO**
FREMONT, CALIFORNIA
The USS *Valdez* was leased to Taiwan and renamed *Yi Yang* (FF-939) in 1998. Hanchang modeled the *Yi Yang* with AFV Club's 1/700 scale *Knox*-class frigate, adding a lattice mast from Gold Medal Models and radars and SM-1 missile-launcher boxes from Veteran Models. He put the ship afloat in Liquitex acrylic gel medium, shaping the bow wake from Tamiya epoxy putty and painting the water with blue-green and white acrylics.

Reader Gallery

◀ BOB READ
CALGARY, ALBERTA, CANADA
To model a Canadian Light Armored Vehicle (LAV) III deployed in Afghanistan, Bob converted AFV Club's 1/35 scale Stryker with a set from Real Model and loaded the vehicle with aftermarket accessories: Accurate Armour water bottles; Hauler padlocks; Maple Leaf Models stretchers and weapons; Echelon Model mirrors; and a host of homemade detail, including tarps made from latex gloves, a GPS antenna from turned brass, and straps from masking tape. Archer provided the markings.

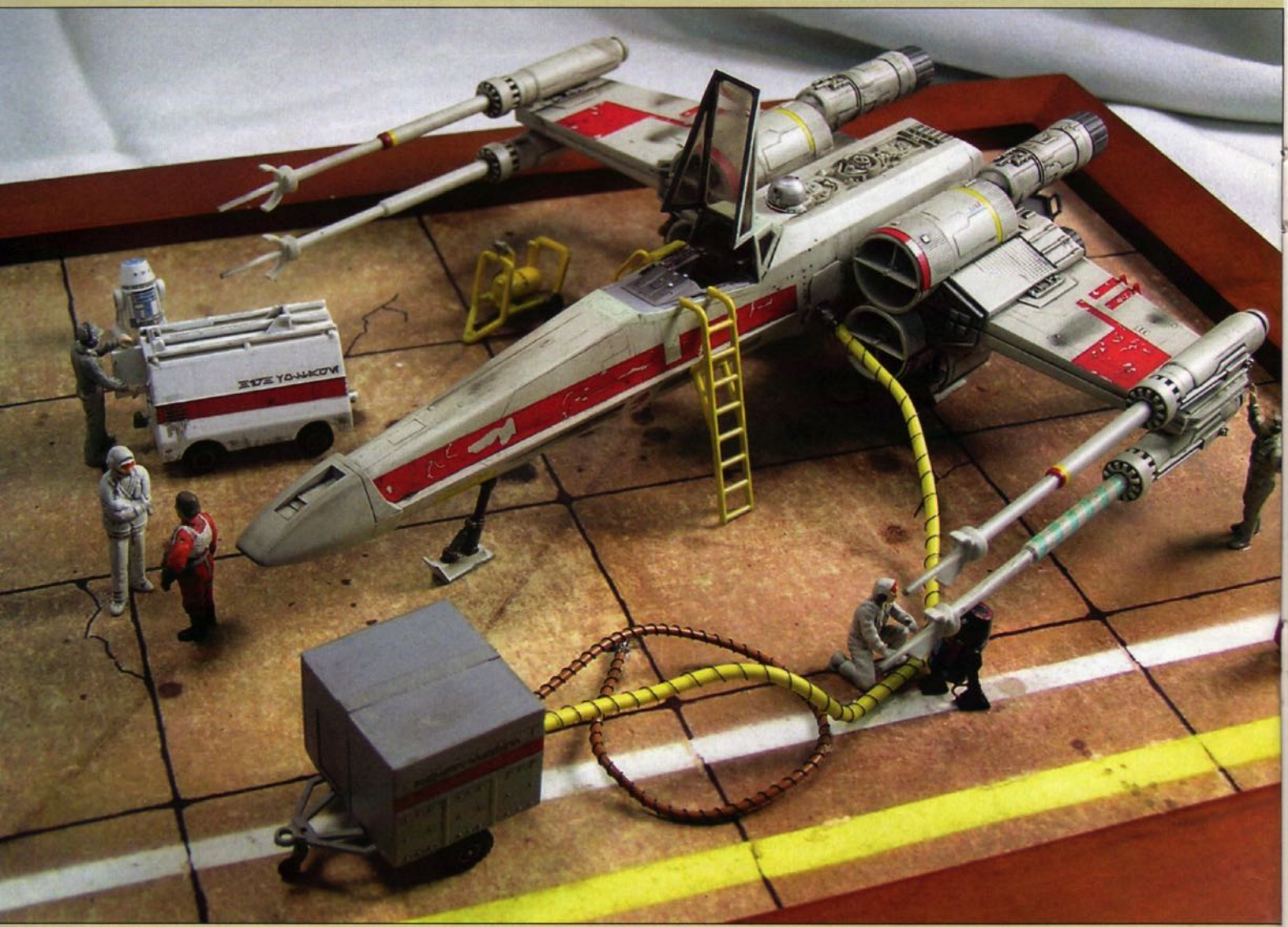
▼ CRAIG SARGENT
TAKAPUNA, AUCKLAND, NEW ZEALAND
Starting with Monogram's 1/48 scale kit, Craig modeled an AV-8B Harrier II+ of Marine Attack Squadron 223 during Operation Iraqi Freedom. He improved the model by rescribing panel lines as well as installing a Black Box cockpit, a modified radar from Aires' F/A-18 Hornet, and a scratchbuilt nose cone and pilot's step. Craig finished with Gunze Sangyo acrylic paint and TwoBobs decals.



▲ PETER BIEBERICH
NÜRNBERG, GERMANY
To compose a 1/16 scale diorama, Peter positioned Xion's 3.7cm PaK 35/36 anti-tank gun with figures, then festooned the base with such Xion accessories as a brass ammo box, water bottles, pistols, and MG 42 and MP 40 machine guns. Peter airbrushed and weathered with Vallejo acrylics.

▼ GLENN BARTOLOTTI
TAMPA, FLORIDA
"The interior has a lot of great detail," says Glenn of Tristar's 1/35 scale Panzer I Ausf A. He airbrushed the innards and weathered with artist's oils and ground pastels, propping open the hatches and engine access doors. Glenn finished the light tank by hand-brushing details, applying targeted filters of ground pastels and odorless turpentine, a black wash for the road wheels, and pastel-rust and sand washes to the tracks. The model features various photoetched-metal parts including clasps and muffler guards.

Reader Gallery



▲ ALVARO MARTINEZ
MIAMI LAKES, FLORIDA
Alvaro built Fine Molds' 1/72 scale "Star Wars" X-Wing, marking it as Wedge Antilles' *Red Two*. "Wedge is the best pilot in the original trilogy – he survived two Death Stars without using the Force," Alvaro says. He painted the canopy with Model Master enamels and Tamiya smoke and colored the exhausts with Model Master Metalizer gunmetal spray. He heavily weathered with dry-brushed enamels and washes of acrylics and pastel powders. The scene is rounded out with Hasegawa ground equipment and figures, Fujimi U.S. Navy carrier deck figures, and a Verlinden tarmac.

◀ ALLAN A. INOUYE
NORTH BEND, OREGON
After building it out of the box, Allan finished Tamiya's 1/35 scale T-34/76 by base-coating green, over-spraying white, weathering with powder pastels, and dropping snow made from baking soda on dirt from his backyard. Allan had the base professionally made.

▶ ROBERT SHVEYSTER
FAIR LAWN, NEW JERSEY
An avid fan of World War II armor, Robert spent more than 100 hours on Dragon's 1/35 scale King Tiger. He marked it as tank 312, serving with the 501st heavy tank battalion in Eastern Europe. Robert improved the German tank with Aber photoetched-metal parts and tow cables as well as Friulmodel tracks. After masking with Silly Putty, Robert painted and weathered with Tamiya acrylics, pastels, and artist's oils and pencils. He created the tank's cast-steel texture with Mr. Surfacer 500, and finished tracks with Blacken-It and a wash of pigments and oils.

▶ ASHLEY ABERNATHY
GLEN ALLEN, VIRGINIA
After building Tamiya's 1/48 scale Kawanishi N1K1-JA *Shiden* (Allied designation "George") out of the box, Ashley painted with Tamiya acrylics, misting light coats to simulate wear and fading, and dented the external fuel tank.

▼ ED RITCHEY
WEST KINGSTON, RHODE ISLAND
To backdate Monogram's 1/48 scale F-105D to an early-production D, Ed removed a bunch of detail, including the fore and aft Radar Homing And Warning (RHAW) antennas, the strike-camera housing, gun-cooling vents, afterburner cooling scoops, and various stiffeners and bulkheads. He painted the Century Series jet with Model Master colors and weathered it with thinned drafting ink and pastels.

ROCK OUT with a really HEAVY METAL MODEL

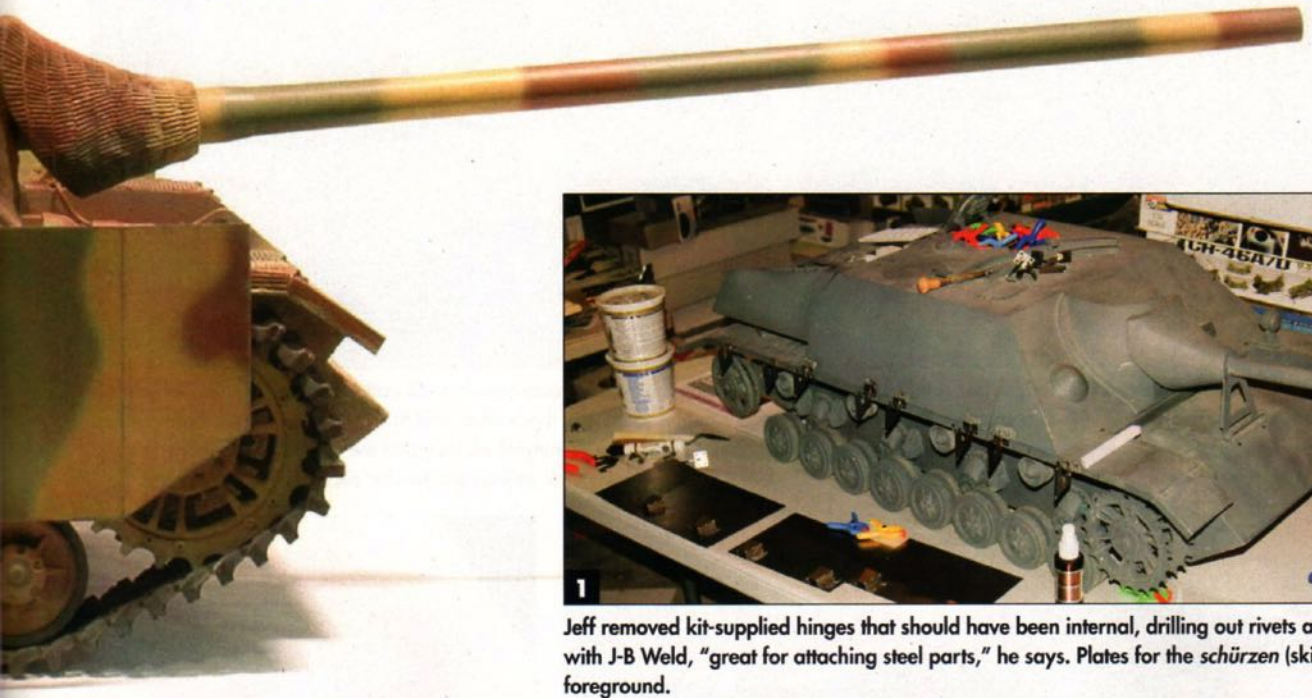
Battle Ready Armor's Panzer IV/L70(V) gets the works

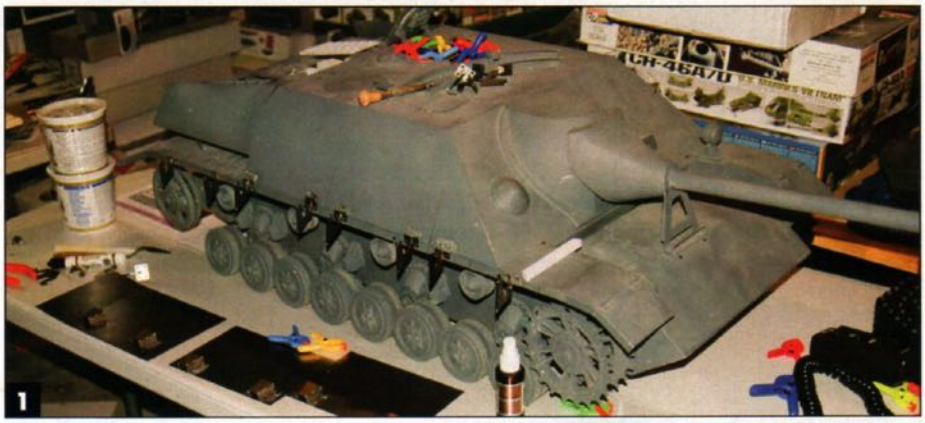
BY JEFF HERNE

Somewhere in the nether regions of my brain, something happened about 10 years ago – I stopped building models of one type and scale in favor of building whatever struck my fancy at the time.

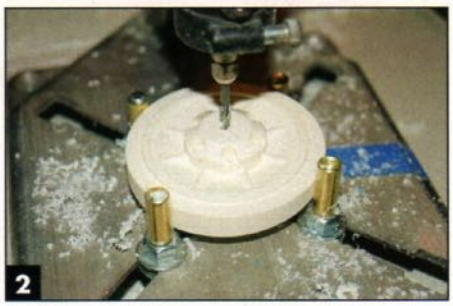
So when I encountered Battle Ready Armor's 1/6 scale kits, I had to build one. It was the low-profile Panzer IV/L70 that caught my attention. The hull is laser-cut from 20-gauge steel and features resin details and injection-molded tracks. Battle Ready gave me a boost by assembling the lower hull for me – saving hundreds of hours I would have spent bending, riveting, and spot-welding sheet metal. Still, I needed everything I knew from my high-school shop classes, experience with scale models as well as 1:1 vehicles (another expensive hobby of mine) to add all the detail I could to my tank destroyer.

It's hard to build metal models bigger than 1/6 scale without opening your own foundry and production line. Jeff's Panzer IV/L70(V) is loaded with detail – and more than 3' long!



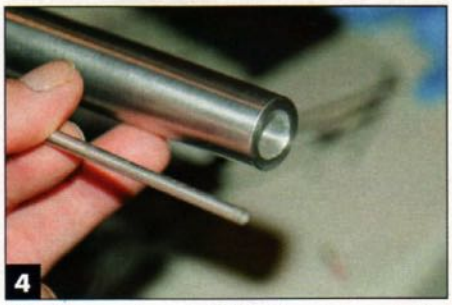


Jeff removed kit-supplied hinges that should have been internal, drilling out rivets and filling the holes with J-B Weld, "great for attaching steel parts," he says. Plates for the *schürzen* (skirts) are in the foreground.



The kit's road wheels were replaced with resin parts from Panzerwerk. Jeff drilled out each wheel half in a drill press, glued them together, then ran the drill back through each completed wheel set to ensure alignment, "a critical step if you want them to run true," he says.

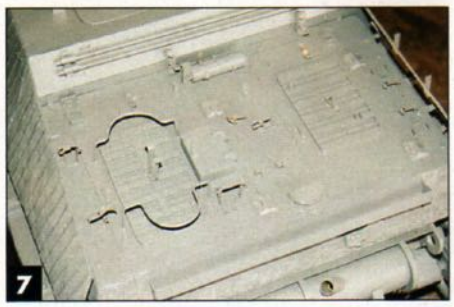
Hull-stowed tools take on even greater prominence in this scale. 6th Scale Icons provided several exquisite items plus photoetched-metal mounts. Jeff stained and clear-coated wood handles and soaked metal parts in Blacken-It, then wiped them down to impart a look of raw steel. The white plastic is a louvered vent Jeff made from styrene sheet and strip.



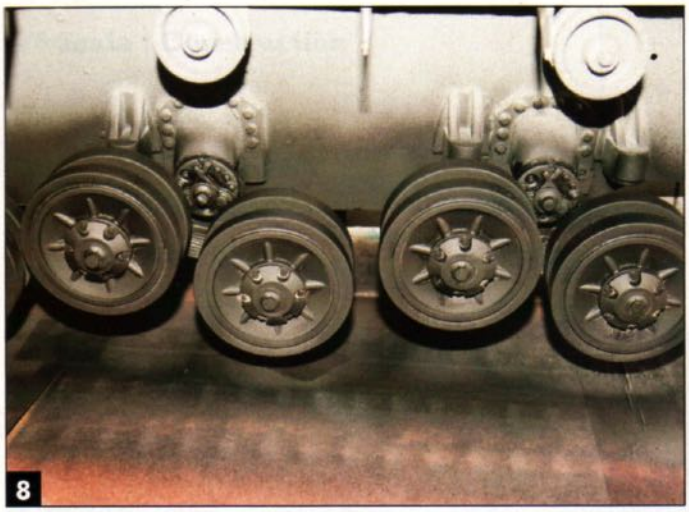
Wanting to replace the PVC-tube gun barrel of the kit, Jeff turned to a modeling club member who also happened to be a machinist – and soon he had a turned-aluminum barrel that matched the taper of a 1/35 scale counterpart.

Jeff used Aves Apoxie Sculpt for Zimmerit, the non-metallic paste Germans applied to ward off magnetic mines. He rolled out sections of the self-hardening clay, pressed it to the hull, rolled it level with a wet nylon rod, then patterned it with a homemade tool.

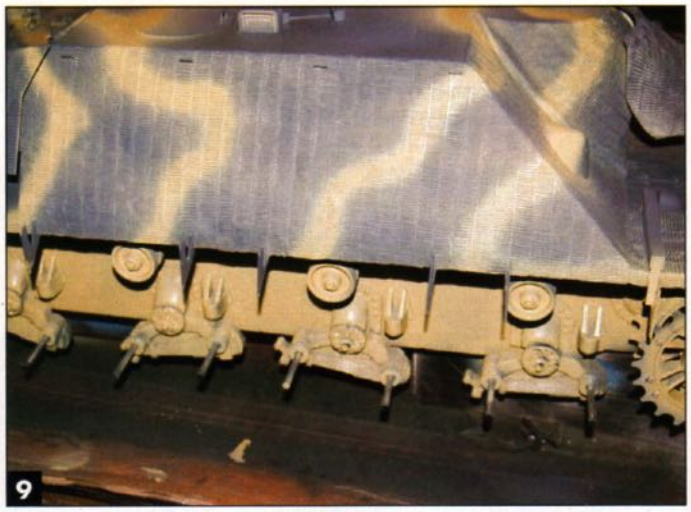
Custom-patterned Zimmerit definitely raised the "cool factor" of Jeff's model, but it was painstaking work – and in this scale, it took him the better part of three days!



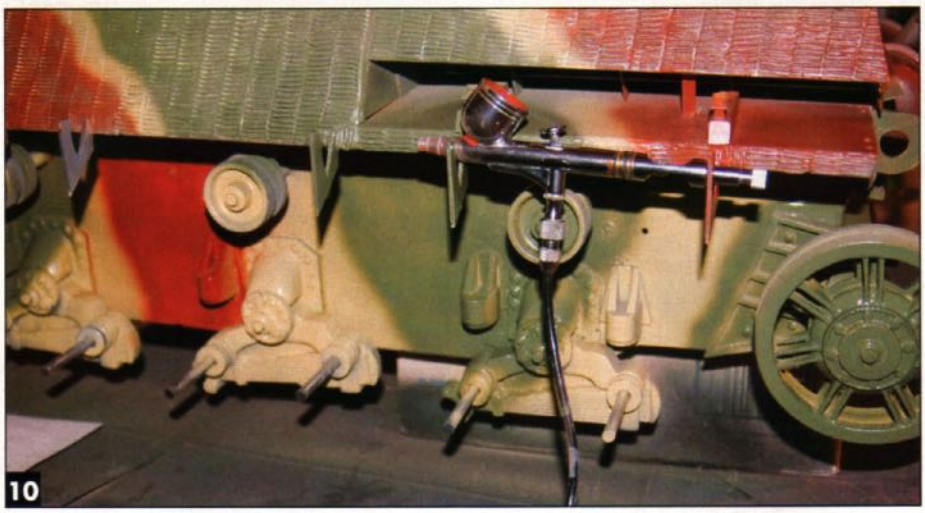
Time to prime! Jeff sprayed Krylon gray primer from a rattle can, then let it dry for about 48 hours while he calculated how many ⅓ oz. bottles of Tamiya acrylics it would take for him to paint a late-war German tricolor scheme.



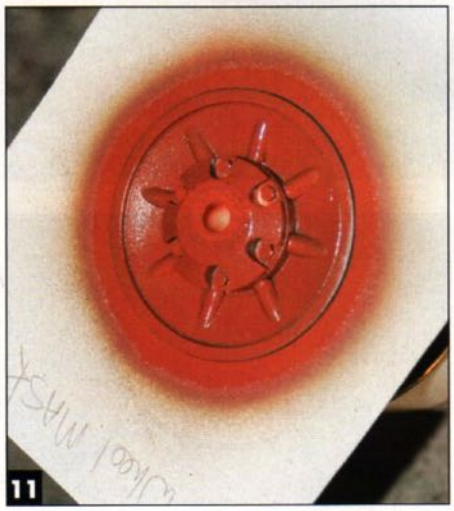
After priming, Jeff sprayed road wheels, lower suspension, and tracks with flat black to cover anything he might miss with subsequent color coats. Also, the Rust-Oleum High Heat paint (for barbecue grills) is tough enough to stay on interlocking, moving parts.



Estimating the model would consume *72 bottles* of Tamiya paint, Jeff carried samples to an auto-body shop and had them custom-mix three pints of DuPont Centari acrylic enamel. He penciled the camouflage pattern, then painted *dunkelgelb* (dark yellow) borders for each area of color.



Jeff wanted to apply the other two colors – *rotbrun* (red-brown) and *olive-grun* (olive, or dark green) – with a spray gun. But when he couldn't find his gun, he switched to his airbrush using a medium tip for a wider pattern. "At least the overspray was in scale," he says.



After a flat black base coat, Jeff sprayed through a template mask ...

... to get precisely painted road wheels.

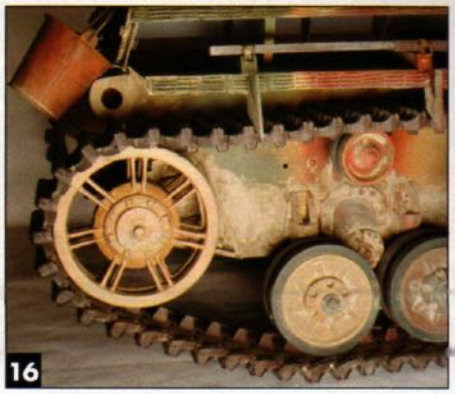
Reassembling the model after painting, Jeff used a coarse drywall-sanding sponge to rough up the skirts and other metal parts. A flat-black wash and several coats of clear flat, including Rustall Deadflat, toned down the bright, bared metal.

14

After his daughter chose the number, Jeff painted white outlines ...

15

... then filled in the color with hand-brushed red. Crosses were painted the same way.


16

For mud, Jeff concocted a brew of Hydrocal (model railroading landscape material), Tamiya buff paint, water, and MMP European dust pigment, mixing in Pledge Future floor polish and Tamiya flat base (X-21) for binder, and kitty litter for texture.

REFERENCE

Panzer IV/70, Wydawnictwo Militaria, available at janterpol.com/Website/WYDMIL.HTM

SOURCES

Aves Apoxie Sculpt, Aves Studio, www.avesstudio.com
Details: Panzerwerk, www.panzerwerk.com; 6th Scale Icons, www.6thscaleicons.com; Steel Dragons, www.steeldragons.net; Armorpax, www.armorpax.com
Hydrocal, USG, available at www.plaster.com
Panzer IV/70, Battle Ready Armor, www.battlereadyarmor.com
Rustall Deadflat, www.rustall.com
Wire-bending tool, Ausfwerks, www.ausfwerks.com

17

One of the finishing touches was to chip Zimmerit here and there to depict battle damage.

18

Flat black and Jeff's homemade mud mixture finished the tracks.

After applying a filter of burnt umber oils to blend the colors, and depositing a Dragon figure in the hatch to block the view of an empty interior, Jeff's tank destroyer was ready to roll. "I've built hundreds of models," he says, "and each of them has been my most enjoyable – but this one takes the cake." FSM

Building & finishing
LARGE-SCALE FIGURES

With new kits joining a host of fantastic Aurora figures, maybe it's time to try your hand; it's a creative way to expand your arsenal of techniques, and the results can be eye-catching conversation pieces – as Jim shows here with his terrific 1/8 scale Invisible Man.

Tips and tricks make Moebius' Invisible Man something to see

BY JIM BERTGES

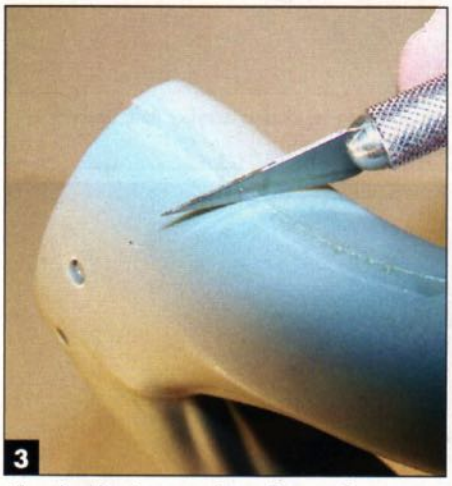
Once the haunt of modeling baby boomers (thanks Aurora!), large-scale figures are enjoying a resurgence. New companies have introduced creatures and creepy characters to take their place alongside Aurora's classics, such as Moebius Models' 1/8 scale Invisible Man.

Taking design cues from Aurora, Moebius includes a detailed base as well as furniture and laboratory equipment for a dramatic display.

Imagination and simple finishing techniques are the key ingredients to give life to any figure.

Jim test-fits the Invisible Man's legs, vest, and coat to be sure he can get them together after painting. He had to flex the coat slightly, but it was easier than painting everything after assembling the figure.

Ambroid Proweld is a strong solvent-based adhesive that melts plastic at the join. After letting the glue work for a minute, Jim will squeeze the parts together, forcing molten plastic out of the join and eliminating most of the seam.



After the glue has set a few minutes, Jim scrapes excess plastic from the join with a No. 11 blade.

Jim's recipe for body filler involves Squadron green putty mixed with lacquer thinner to a paint-like consistency.

Make you a man

Building figures as subassemblies makes it easier to paint contrasting items of clothing.

Test-fitting the major parts, I discovered that the overcoat locks the chest and legs in place, a system that complicates building and painting the components separately. Before painting anything, I practiced gently forcing the chest and legs into the assembled coat, **1**.

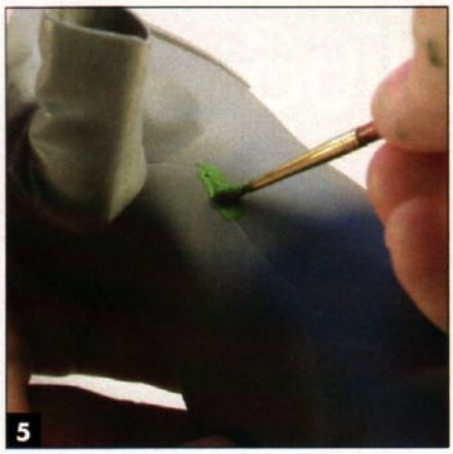
I used liquid cement to join major sections, **2**. The cement flowed between the parts and, in a few seconds, when it had melted the plastic, I squeezed the parts together, forcing a bead of molten plastic from the seam. After letting it dry for five minutes, I shaved the seam with a hobby knife, removing excess plastic and, in most cases, eliminating the seam, **3**.

On the other hand, it's OK for clothing to have seams. But on my Invisible Man, there were a few stubborn seams in inappropriate places. I added lacquer thinner to Squadron green putty until it reached the consistency of paint (acetone-nail polish remover also works), **4**, and brushed it over the seams, **5**. Smoothing more lacquer thinner over the wet putty made sanding easier.

Empty spaces

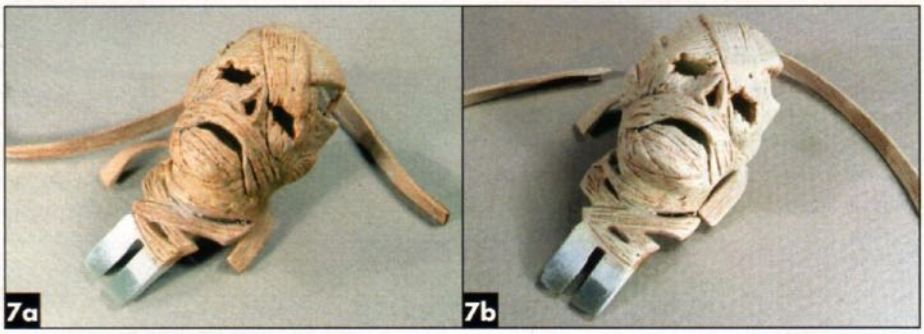
Because the subject of the model is, well, invisible inside his bandages, I thought you should be able to see detail through the eyeholes.

I added thin strips of fine-weave cotton and polyester fabric to the inside of the figure's head, attaching them with Aleene's Tacky Glue, a thick, water-based white adhesive available in craft stores, **6**. After a coat of ivory paint, I glued the head

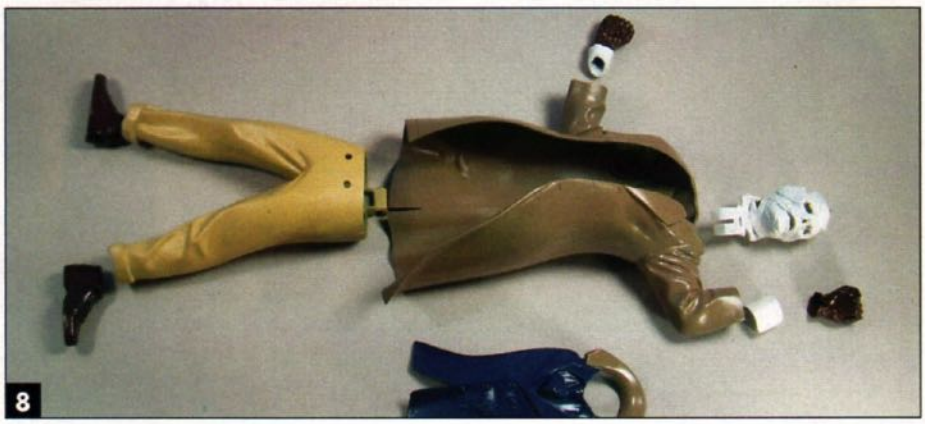


Jim brushes thin putty over the join before blending it into the surface with clear lacquer thinner.

Given the figure's accurately empty head, Jim thought it necessary to add bandage detail inside to complement the external molded detail. He attached fabric strips inside (left), then painted them ivory before gluing the head together.



After coating the head with white primer, Jim applied a wash of raw sienna acrylics (left), then dry-brushed ivory to give the figure clean but detailed bandages.



Using spray cans, Jim painted the model's major components separately, then over-coated with Testors Dullcote to kill the gloss and provide better adhesion for pastels he used in shading.

Jim prefers ground pastels for adding shadows to a figure's clothing (left). An overhead light helped Jim determine where he needed to add darker colors in folds and under limbs.

together, filling and sanding the join to eliminate any hint of a seam.

I primed the exterior with white, then applied a wash of thin raw sienna acrylic paint. When that had dried, I dry-brushed acrylic ivory over the entire head, leaving just enough of the darker color to add depth without making the bandages look dirty, **7**.

Sharp-dressed man

Paint infuses a figure with life, transforming dull, gray plastic into carefully colored and shaded components that will come together as a fully realized … OK, maybe I got a little carried away, but painting is often the most rewarding and interesting part of figure building.

After priming the subassemblies, I painted them with spray cans. They're easy to use, there are lots of colors available, and it's easy to apply a smooth, durable, quick-drying finish, **8**. A coat of Testors Dullcote followed, giving the clothes a realistic flat finish and adding "tooth" to the surface for subsequent shades.

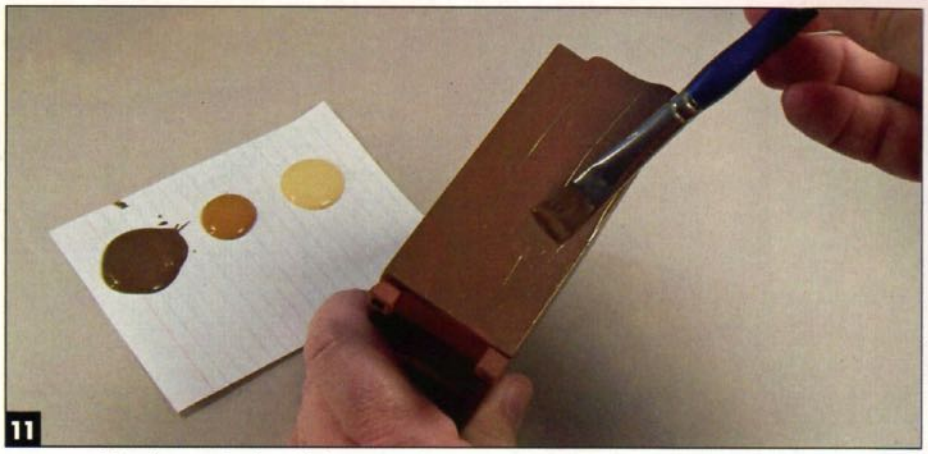
After painting the shirt and tie by hand, I assembled the major components. I shaded and textured the clothes with ground pastels, using room light to figure out the areas to be colored. Usually the deepest wrinkles and the undersides of arms and collars need to be darkened, **9**.

Pastels are very forgiving for shading – if you make a mistake or don't like the look of what you have done, you can remove them with a moist cotton swab and start again. Satisfied with the shadows, I dusted on Dullcote to set the pastels and protect them during handling, **10**.

Knock on wood

The kit includes a table and bookshelf to furnish the scene. Getting plastic to look like wood is challenging, but I've developed

Once the clothing had been brought to life with subtle, realistic shading, Jim sealed the finish with Dullcote.



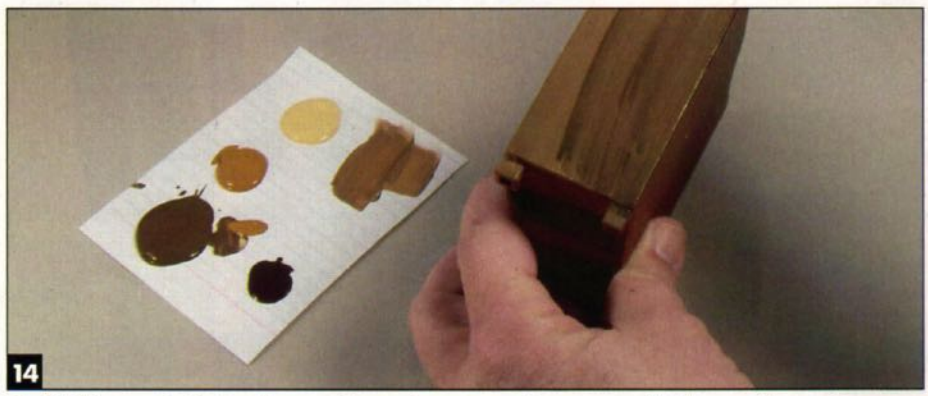
Jim's wood-finishing method is all about speed. He covers dry, rust-colored primer with four shades of brown acrylic while each is still wet, starting with the darkest brown and brushing in the direction of the wood grain.

Meet Jim Bertges

SINCE BUILDING A REVELL F-86 Sabre in 1957, Jim, 59, has dabbled in just about every genre of modeling, from wild animals to submarines. An early encounter with Aurora's Frankenstein got him hooked on the movie figures which now dominate his workbench. "Currently, my building passion centers on subjects from science fiction, fantasy, and horror – mostly figures, but an occasional spaceship will sneak its way in," Jim says. He also admits to building armor and pre-1970s cars. Jim, who spent 30 years doing film-industry advertising, lives in Simi Valley, Calif., with his wife of 34 years, Rhona, his youngest son, Justin, (Jim's eldest son, Brendan, works at Disneyland), two cats, Indiana and Kismet, and "more kits stored in my garage than I'll ever be able to build in this lifetime," Jim says. "But I'm working on it."

Jim applies the middle brown, streaking it into the wet dark brown.

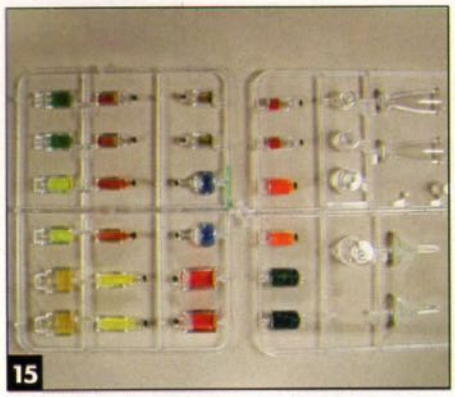
Adding the lightest brown creates more depth and texture. But Jim's not done...



The finishing touch: Jim brushes on a layer of transparent brown to enrich the wood's tone. Once everything dries, Jim sprays it with clear gloss for a polished finish.

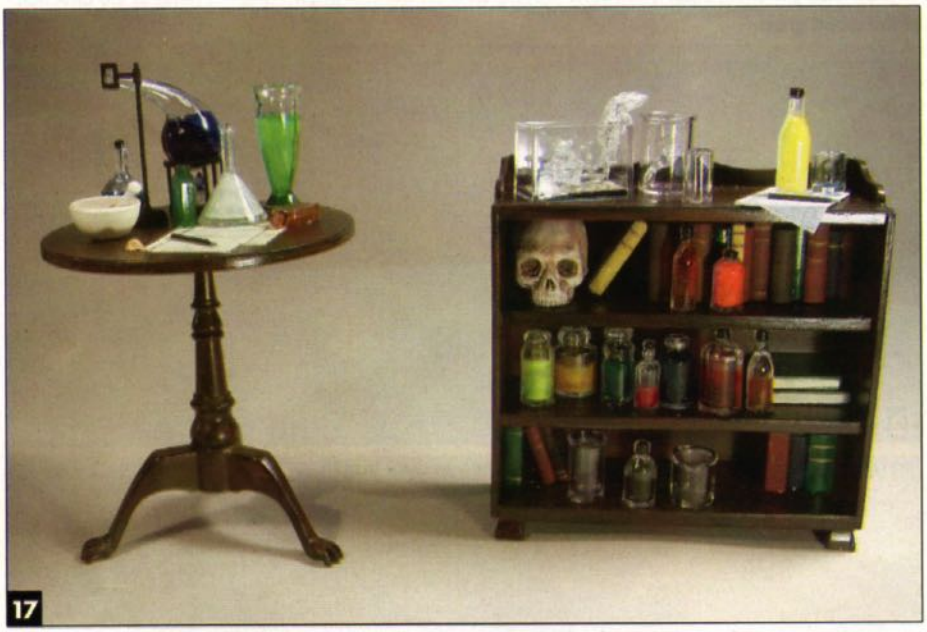
a technique I think works pretty well. The good news is, your painting doesn't have to be perfect. Normally, modelers avoid leaving brush strokes that show. But painting wood grain requires streaks.

After priming the furniture a rust color, I followed with three shades of brown acrylic paint, starting with the darkest, **11**. While that color was still wet, I brushed on the next lightest shade, moving the brush in one direction to keep the "grain" consistent,



To fill the bottles and add color, Jim painted the inside of the glassware with transparent paints. Black paint in the necks represents stoppers.

After assembling them with Testors clear part cement, Jim dips the bottles, vials, and beakers in Pledge Future floor polish for a glassy shine.



Properly finished, the books, laboratory equipment, and paperwork lend a scientific bent to the figure's setting. Note the clear rats and snake on the top shelf, the results of early experiments.

12. Next, I applied the lightest color, **13**. Working while the paint is wet allows you to blend the colors and add a variety of streaks. Finally, a coat of transparent dark brown adds richness, **14**. When everything was dry, I applied a coat of semigloss clear for a realistic shine.

Heart of glass

The kit's clear parts – bottles, beakers, and jars – give you a chance to add a dash of bright color to the model display. To "fill" them, I painted the inside of the two-part bottles and beakers with various transparent acrylics, **15**. I assembled the clear containers using the Testors clear part cement. After the glue dried, I dipped each jar and flask into Pledge Future floor polish to enhance its shine, **16**.

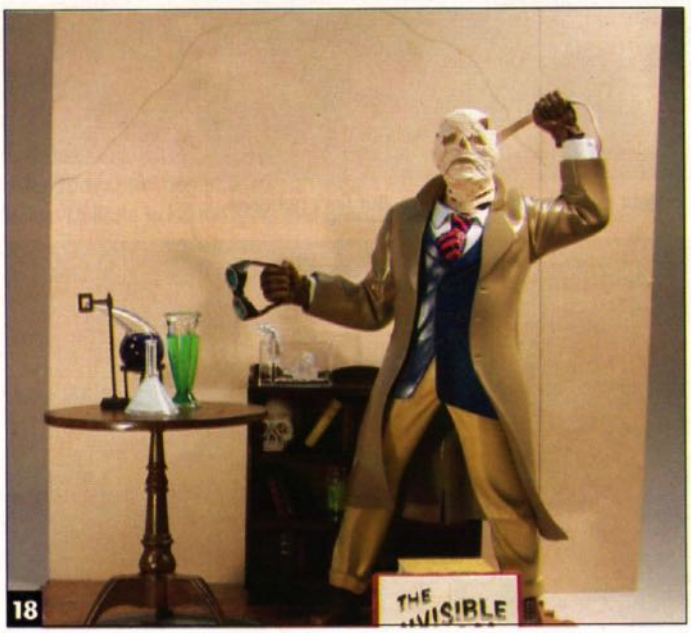
Among the clear parts are some of the Invisible Man's previous experiments, a frog and two rats with paintable internal organs – a nice, creepy detail, **17**.

Walling it all in

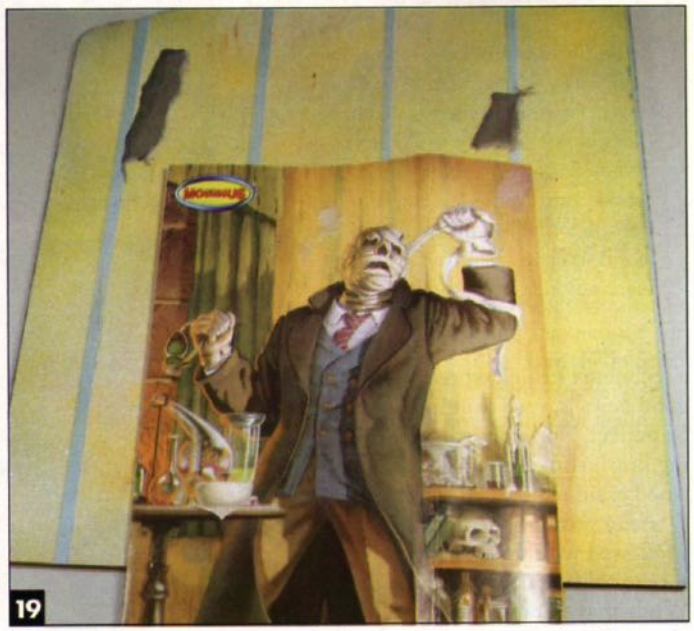
With all components in place, the scene still seemed incomplete – it needed a back wall. I traced an outline on ⅛" micro plywood, **18**, then painted it to match the box-top art, **19**.

Finally, I drilled out the lenses of the goggles in the figure's right hand and filled them with clear green.

It seems plastic figure kits are making a comeback. Give one a try: It will either be a fun break from your usual modeling or a new outlet to exercise your skills and creativity. **FSM**



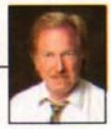
Jim felt the scene needed a backdrop, so he traced a shape onto a sheet of micro plywood, the rough top-edge matching the ragged floor.



Jim painted the wall to match the kit box, including tears in the yellow-and-blue wallpaper, then glued the wall to the base's rear edge.

Questions & Answers

A clinic for your modeling problems



By Mark Hembree

Faded glory

Q What is an easy way to simulate the appearance of faded paint on aircraft that have been on outdoor display?
– Shane Clayton, Woodstock, Ontario, Canada

A There are many ways to achieve this effect on a model, Shane. One would be to overcoat your color with a faded shade of the same, lightened with a few drops of white. Another is to add a little white to a clear flat (and the clear itself may enhance the effect). Also, you can dust with light-colored powdered pastels. In any of these applications, work from the top – upper surfaces get more light. Also, don't overdo it – keep the effect subtle. The first time it looks like enough, it is!

Transferring panel lines

Q Regarding Carl Knable's July 2009 article on backdating a Constellation, I thought the technique he used for transferring panel lines from one fuselage to another using plastic wrap was very innovative. I would love to give it a try, but the details were vague. Did he scribe through the wrap when he put it on the fuselage, or did he invert the wrap after drawing lines on it and transfer the lines directly to the plastic (like a dry transfer)?
– Tom Gawrych
Grand Rapids, Mich.

A After Carl applies the marked-up cellophane to the model he pokes a pin or knife point lightly through the wrap, faintly marking the model's surface. The marks serve as guides for a straightedge or Dymo labeling tape he can trace with a scriber.

Painting resin

Q What is the best way to prepare and paint resin parts? Does it make a difference whether I use enamel or water-based?
– Gerry Chapek
Independence, Ohio

A Aaron Skinner did a story on this in the July 2008 *FSM*. Back issues are available online at FineScale.com or by calling customer service at 800-533-6644 (262-796-8776 for international callers).

To prepare the pieces, sand, grind, or file off any flash (excess casting material attached to the pieces). Then clean them thoroughly; Aaron soaked them in Westley's Bleche-Wite (strong stuff, it's used to clean tires).

After that, proceed as usual. You can paint resin parts with acrylic (water-based) or enamel. Either way, I recommend starting with a primer coat to grab that resin and provide an even footing for the finish colors.

Replacement landing gear

Q I need to find aftermarket landing gear for an old 1/32 scale F-16. In a long-distance move, the kit's gear was broken beyond fixing.
– Keith Goldstein
Davenport, Fla.

A Keith, it looks like you can get just what you need from Scale A/C Conversions at www.squadron.com. Enter *1/32 scale* and *F-16* in Squadron's search engine and you'll see a set of landing gear. You may even be able to get the part from Revell at www.revell.com/support/index.html.

Drat! Paint on the canopy

Q Some enamel paint has seeped under the masking tape and stained the canopy on my 1/48 scale Potez 63-11. What can I use to take the paint off?
– Gerard Rocks
Newry, Northern Ireland

A If it were acrylic paint, you might be able to chip it off. The tough thing about enamel is that it may have etched the surface a little. First, take a toothpick and see how much of the paint you can scratch or chip off — the toothpick will be easy on the surface, and you may get some paint off that way.

Next, apply a little thinner (turpentine, Turpenoid) and try the toothpick again. Then, use a cotton swab or soft cloth and a little more thinner and see what you can wipe away. If you are judicious with the thinner and rinse it right off with water you can avoid damaging the plastic. If it clouds, sometimes you can polish it back out with a mild abrasive, such as toothpaste, or a succession of very-fine grit sanding cloths.

Cut that out

Q What is the best method for cutting openings in plastic to model windows, hatches, etc.?
– Will Day
Santa Clarita, Calif.

A Drill pilot holes to outline the opening-to-be near its edges, then gradually enlarge the holes with successively bigger drill bits until you can "connect the dots" with a hobby knife blade. Refine the shape of the opening with the knife and sanding sticks or files.

Revealing the masks

Q I haven't done much modeling for a while but I am starting to get back into it. I'd like to know the best types of masking tapes available.
– Bob Lucas
Seattle, Wash.

... GET THAT GUMMY STUFF OFF YOUR MASTERPIECE ...

A Everyone has their own favorites. I use plain old 3M painter's tape (the blue stuff) for broad areas. Another, with less tack, is 3M paper tape. For fine edges, it's hard to beat the thin Tamiya tape (look for it in a hobby shop). And some like to mask thin frames (such as on aircraft canopies) with Bare-Metal Foil, burnishing it down and trimming out the surfaces you want to expose to paint.

Of course, just as important as putting on a mask is getting it off. Goo-Gone (see below) will get that gummy stuff off your masterpiece.

Where to go for Goo-Gone

Q I've been using Tamiya's yellow masking tape and 3M's blue tape, and I find both of them are leaving adhesive residue when I remove them. What am I doing wrong and how can I fix it?
– Ting Liao
Oceanside, Calif.

A To remove adhesive residue, try Goo-Gone. It's available at hardware and grocery stores. To see what it looks like, visit www.magicamerican.com. **FSM**

Reader Tips

Solutions and innovations

By Aaron Skinner

1

Ignacio added a keyboard tray – look for them wherever office supplies are sold – to keep his paints off the bench but within easy reach.

2

A magnetic knife holder mounted under a shelf above the workbench stores Ignacio's tools; they're a lot easier to find here than in a drawer.

Workbench storage made easier with simple household bits and pieces

I added a keyboard drawer to my workbench to store Model Master paints and even some tools, **1**. To aid finding the correct paint, I labeled the lids: I wrote the paint's name, Testors number, and even added a dab of the paint. This addition to my workspace has enabled me to expand my paint collection considerably without interfering with my workbench or wall space. And it was an easy and very inexpensive solution for paint storage.

Secondly, I attached a kitchen knife magnet to the underside of the shelf over my workbench to hold metal tools, **2**. I've seen the magnetic storage systems mounted on walls before, but the shelf is easier to reach on my workbench, and it's easy to spot the tool I need.

– Ignacio Allende Casasempere
Santiago, Chile

Filing sandpaper

I have found an easy way of keeping all my sheets of sandpaper organized by using an accordion file folder, found at any office supply store. Conveniently flip to the desired grade of sandpaper and remove what you need.

I set up my folder beginning with coarse grades and ending with finer grades.

It's a great way to see when you're running low on a grade, but – best of all – your sandpaper is all in one place!

Tony Mazzola
Medford, Mass.

Easy hanger painting holder

I've found a simple way to paint radial engine cowlings and similar round parts. Take a coat hanger – preferably the kind with the hollow cardboard tube like drycleaners use – and remove the tube. Bend the hanger's metal arms into a "Y" shape. Now slip the cowling over the ends of the Y and let the arms spread out gently until the cowling is caught and held in place by the arms. When you've finished painting, turn the hanger upside down and use the hanger hook to suspend the part while it dries. It works in all scales and can be adapted to fit other parts.

George Zupko
San Francisco, Calif.

Cleaning brushes is child's play

For acrylic paints, I've discovered a terrific way to keep my brushes clean and in shape using a small cup with a plastic lid like you get with children's meals at fast-food restaurants.

First, I make slits or holes of various sizes to match my paint brushes. Then, I fill the cup with water and fit the lid. Next, I push the brushes into the holes until the bristles are submerged.

I find it helpful to mark the water level on the outside of the cup with a permanent marker so I always know how far through the lid I need to push the brush. If you accidently knock the cup over, very little water will spill.

Mark King
Denton, Texas

Paint gets brassed off

To remove paint without loosing the glue bond, try Brasso. It works on most paints.

Also, wet a wash cloth with Brasso, let it dry several days, and you'll have a scratch remover that's better than fine sandpaper.

– Sam DeGeorge
Bradenton, Fla.

FSM wants you!

Send us your tips! Visit FineScale.com and click on "Contact Us." Or, you can mail your idea to us at Reader Tips, *FineScale Modeler*, P.O. Box 1612, Waukesha, WI 53187-1612.

The forerunner of the Merlin-engined Mustangs that helped turn the tide of the air war over Germany, the A-36 Apache has never been kitted in 1/32 scale before.

Early Mustang gets its due with Hobbycraft A-36A Apache

The first North American Mustang to see action in World War II was the Allison-engined A-36A, named the Apache and unofficially known as the Invader. It entered combat in 1943 and fought in the Mediterranean and the China/Burma/India theater. The Apaches served well and helped pave the way for the Merlin-engined Mustang P-51.

Hobbycraft's new A-36 is the first-ever 1/32 plastic model of the Allison Mustang. Additionally, Hobbycraft has released three other versions of early Mustangs. The part breakdown and details of the Hobbycraft kit resemble Accurate Miniatures 1/48 scale Apache.

The kit parts are molded in a hard, light gray plastic that has a slight texture to it. Options include full and flattened tires, open and closed canopies, and two types of props.

The cockpit is a multipart assembly attached to one fuselage side. Watch how you install the seat – it can angle too far back if you are not careful. The culprit is the linkage tube from the control stick, Part D3.

After assembling the fuselage halves, I checked the fit of the other subcomponents. I found the fuselage width at the cockpit opening to be slightly wider than the closed canopy part, F2. I couldn't fix this after assembly, so I used the open canopy parts. Also, the fuselage alignment pins will create a small lateral misalignment you'll notice when you attach the cowling assembly. I suggest cutting off the pins for better alignment.

I found the radio-rack instructions confusing and inaccurate. I sorted them out by consulting an Accurate Miniatures A-36 instruction sheet. Essentially, parts D14/D4 are installed behind the scanning windows, not over parts D15/13 as in the Hobbycraft instructions.

The wings went together without a problem but need some remediation. The dive brake slots were not evenly molded in my kit. I spent some time cleaning them up and making the slot openings uniform. The wing gun ports are roughly molded and improperly shaped. I cleaned them up with sanding and filing. (If I build this kit again, I will fill the openings, drill new holes, and line them with plastic tubing.)

Lastly, the Hobbycraft kit suffers the same problem of every plastic Mustang kit. The wheel wells are not deep enough as

they follow the outline of the opening. They should be open back to the wing spar.

The wing-to-fuselage fit was very tight. I needed to file and sand the fuselage wing root around the landing flap for a good fit.

The wing landing-light cover is large and clear, exposing a void behind it. I cut two sections from the clear sprue runner, polished the ends, and installed them to simulate lights behind the covers.

I assembled the wheel-well doors (parts E1/2) in the up position, consistent with photo references. This helped disguise a fault with the doors, which are molded with the representation of a reinforcing plate mostly seen on later Mustangs.

I painted my A-36A with Hobby Color World War II USAAF colors. Decals are provided for three U.S. and two Royal Air Force aircraft. They applied well on a gloss undercoat with some decal solution. Note: If you are using the shark mouth scheme as I did, the shark mouth decal will not apply properly without modification. I needed to take a ⅛" section out of the middle. (I found this out the hard way during application!)

My main reference was Squadron/Signal's *Allison Engined Mustangs Walk Around Number 13*. Also very useful was Eagle Edition's *86th Fighter Group in WWII*. It has some very good photos of *Priscilla/Mavonne*. (I also learned that the right-side nose gun had a blast tube attached to it.)

I completed my A-36A in 18 hours. The kit builds into a nice replica, but it does need special attention to its weak areas. I would not hesitate to build another, and I'm happy to finally have an early Mustang available in 1/32 scale.

–Jim Zeske

Kit: HC1710 **Scale:** 1/32
Manufacturer: Hobbycraft Canada, 905-738-6556, www.hobbycraft.com
Price: $48 **Comments:** Injection-molded, 91 parts, decals **Pros:** Great subject **Cons:** Uneven molding in places

The success of the sturdy Spad XIII can be measured in the 10,000 outstanding orders cancelled at the end of World War I.

Eduard Spad XIII late version ProfiPACK

There's no arguing that Eduard's tiny Spad is the best you can get in 1/72 scale. The cockpit interior includes an instrument "panel" with individual decal gauges and a seat with a photoetched-metal harness. Exterior detail includes louvers and vents around the engine and a subtle rendition of fabric-over-form construction. The struts are very fine. Photoetched-metal details include individual bezels for the instruments, alternate cowl vents, gunsight, harness, and aileron actuator rods.

Well-printed decals offer markings for French aces Charles Nungesser, Fernand Chavannes, Léon Blanc, and René Fonck.

The creation of the kit is a beautiful thing; the build, not so much. The instrument "panel" attaches to a deck surrounding the cockpit and sits too tall to allow the top of the fuselage to fit. I had to reinstall the deck lower than shown in the instructions, then shave off the top of the instrument mounts. With the instruments scattered about inside, each dial face is a separate decal to which you can add a photoetched-metal bezel. But the instruments are less than a millimeter wide, and most can't be seen on the finished model.

The time to paint a biplane model is after the assembly of the fuselage but before mounting the upper wing. For the six-color camouflage, I picked Testors Model Master enamels SAC bomber tan (light green), SAC bomber green, military brown, and Polly Scale sand, with a Testors Model Master light ghost gray bottom. The small patches of "black" were hand-brushed with Polly Scale grimy black.

The biggest hurdle with any biplane kit is mounting the upper wing and struts. Eduard shows this task in one step in the instructions – wishful thinking, I'm afraid. I first studied the rigging diagram and reference photos, then drilled holes in the bottom wing and fuselage with a No. 80 bit. Most of the struts are individual moldings and go in shallow dimples in the wings. I mounted the cabane struts first, then discovered they had too much forward stagger to reach their assigned dimples in the upper wing. I trimmed off the mounting tabs and remounted them. The mid-wing interplane struts are molded together with a cross member, so that helped.

At this point I strung the cross-rigging on the interplane struts with 1-pound nylon monofilament, then glued the upper wing to the installed struts. I added the outer interplane struts and aileron control rods after the upper wing had set, then completed the rigging. The instructions don't show that the wires from the bottom of the fuselage to the upper wing are doubled fore and aft. In all, there are 35 attachment points of struts and tubing to line up and 36 runs of rigging – all within a span of 4½" and a space of ¾" between the wings.

I chose the markings of Nungesser as they were the most colorful. (Chavannes' spider-web motif was tempting, but no decals were provided for the ultra-fine lines of the web.) The decals went on fine and were opaque enough to cover the paint.

I spent more than 35 hours on this tiny model, most of it under the Optivisor with tweezers in hand. The finished model looks fine, but I'll need time to regroup and get up my nerve before tackling another.

– Paul Boyer

Kit: No. 7053 **Scale:** 1/72
Manufacturer: Eduard, 420-47-611-8259, www.eduard.cz **Price:** $19.95
Comments: Injection-molded, 90 parts (32 photoetched), decals, self-adhesive masks for windscreen and wheels **Pros:** Top-notch detail; alternate cowl rings, wheels, props, windscreens; excellent decals **Cons:** Interior interferes with fuselage fit; too much stagger in cabane struts; difficult to align struts

The AFV Club model's clear body gives viewers an appreciation of the tight quarters occupied by T-34 crews.

AFV Club T-34/76 Model 1942, Factory No.112

The Soviet Union's T-34 was produced in greater numbers than any other tank in World War II. With many T-34 kits on the market, AFV Club has raised the bar with a full interior for its T-34/76. The kit includes a live suspension, turned-brass barrel, posable turret hatch, full hull, and turret interior. Not provided are the internal fuel tanks, wiring, and fuel lines.

Building the suspension, I super glued the spring ends to the top and bottom pieces so the shaft would float. The road wheels are made up of a separate "rubber" rim. I painted the interior with Tamiya flat white (XF-2) and the interior side walls and oil tanks Testors Italian brown. Where visible on the interior walls, the ejector-pin marks were removed and painted with Testors Metalizer burnt metal. No internal fuel tanks were provided, so you'll have to scratchbuild them. I joined the one-piece tracks with "Goop" adhesive and painted with Tamiya metallic gray (XF-56).

Building the fighting compartment presented no issues other than the lack of electrical wiring. After looking at photos of crewmen loading the tank with ammo, I settled on painting the 76mm high-explosive round with SnJ brass for the case and Floquil weathered black for the warhead. The air tanks and line were painted medium blue, and the fuel line Tamiya yellow. I weathered the interior with a wash and Tamiya weathering pastels.

I've heard the buzz on the Internet about the engine having both early- and late-style air cleaners. These same people missed the cutaway drawing in Steve Zaloga and Peter Sarson's book *T-34 Medium Tank 1941–45* (Osprey) showing a T-34/76 with the same setup. It's possible the museum example that AFV Club used may have had an early-style air cleaner engine installed in an updated hull. We are all learning more about the T-34 as more information comes out of Russia.

The good news is the kit has the parts to assemble the later-type air cleaners. Substitute intake manifold parts A52, A53 for A54, and you are set. If you want to model the earlier air cleaner, use rear bulkhead part number C39 as a template and omit the holes for the later-style air cleaner.

You'll have to modify the exhaust pipes as well. After all the drivetrain components are installed, the lower rear hull plate has a gap that the final drive does not cover. I filled the gap with Squadron white putty.

Building the turret was straightforward, although a large seam on the back of the turret needed filling. I substituted turret hatch cover support Part E14 (open position) for Part E15 (closed) and painted the interior Tamiya white. The main armament is Tamiya J.A. green XF-13.

I painted the model overall with Tamiya J.A. green, using Tamiya weathering pastels for a light amount of weathering. Markings are provided for four vehicles; I chose those of a Polish tank division. My reference for this build was *T-34: Mythical Weapon*, by Robert Michulec and Miroslaw Zientarzewski.

I spent 50 hours building this kit and can only recommend it to experienced modelers. For those who are looking to model a T-34 clear view or in its natural "brewed up" state, this is the kit for you.

– Tom Foti

Kit: No. AF35S51 **Scale:** 1/35
Manufacturer: AFV Club, www.afvclub.com.tw, from Merit International, 626-912-2212, www.merit-intl.com
Price: $58 **Comments:** Injection-molded, 474 parts (11 metal, 2 vinyl, 1 photoetched-metal, 1 nylon string), decals
Pros: Interior; optional markings **Cons:** Ill-fitting upper hull; open turret seam; omitted details; ejector-pin marks; vinyl tracks; incomplete early-style air cleaner

Hasegawa Nakajima Ki-44-II *Shoki* "Tojo"

Designed as an interceptor, the Nakajima Ki-44 *Shoki* (Devil Queller, Allied reporting name "Tojo") was a radical departure from previous aircraft of the Imperial Japanese Army. It saw service from the start of the war in the Pacific and was the fastest-climbing fighter defending Japan against the B-29.

Hasegawa's new kit is the first time this aircraft has been offered in 1/32 scale. The parts and engineering are up to Hasegawa's high standards, with no flash or ejector marks that would show. The kit features comprehensive cockpit detail, a pilot figure with optional heads, open or closed cowl flaps, drop tanks, and underwing ordnance racks. Unused parts indicate several more versions to come.

Kit: No. ST30 **Scale:** 1/32
Manufacturer: Hasegawa, www.hasegawa-model.co.jp, from Dragon Models USA, 626-968-0322, www.dragonmodelsusa.com**Price:** $59.95
Comments: Injection-molded, 175 parts (4 vinyl), decals **Pros:** First of its type in this scale; high-quality engineering and molding **Cons:** None

In the cockpit, I was impressed with how the separate control levers and boxes were presented. The assembled cockpit module fit neatly into the fuselage, where fully detailed Ho-103 12.7mm machine guns are mounted.

Moving on to the engine, this five-piece assembly built up nicely and looked convincing. I found that the cowling can be attached without gluing and, as the propeller is held by a vinyl grommet, it would be possible to display the model with or without the cowling.

The wing assembly is quick and easy. As usual for newer Hasegawa 1/32 scale kits, there is a wing-spar box to ensure the dihedral and fit. The tailplanes have neat interlocking tabs that also produce a good fit and proper alignment.

The wing-to-fuselage fit was almost perfect, needing only a small amount of sanding at the leading edge of the wing near the root. The only filler I needed was for the underside seam where the fuselage meets the wing. Both the fuselage and wings have separate parts for certain panels, all of which fit very well.

Out of the box there is plenty of cockpit detail, including control levers and instruments.

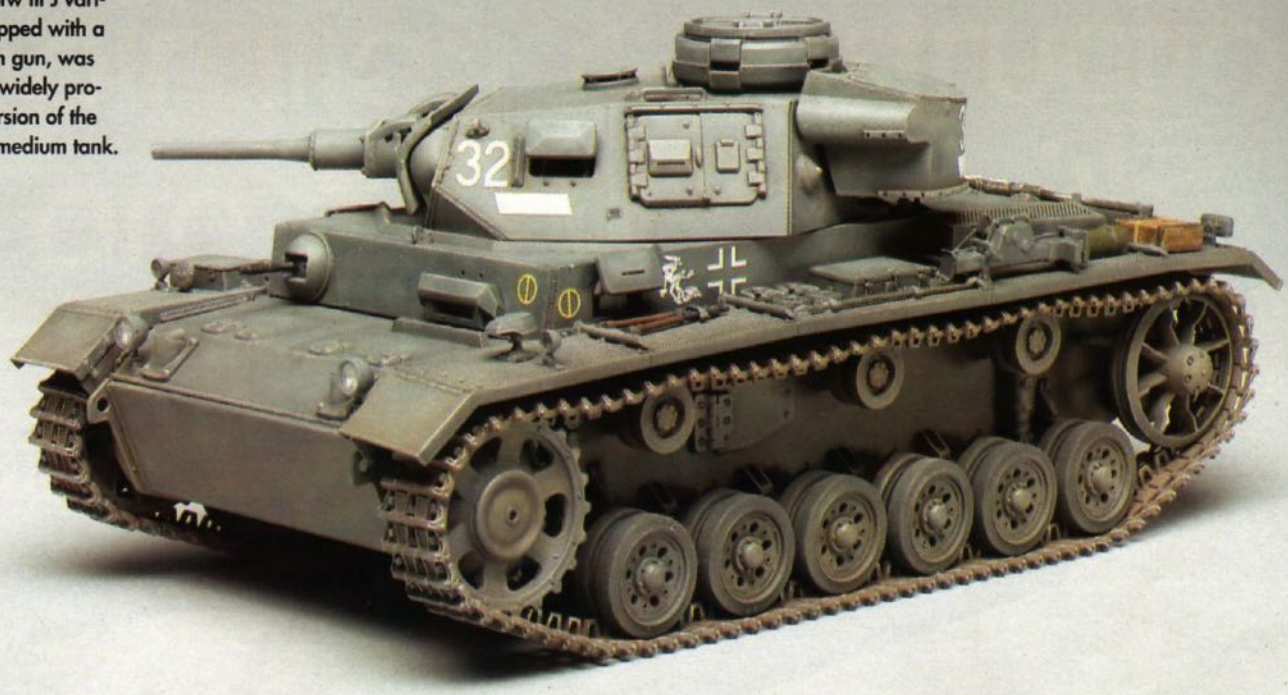
I painted my Ki-44 with Hawkeye's Hobbies Talon acrylic natural metal and Gunze Hobby Color aqueous paints.

Decals are provided for three aircraft. These applied very well with decal solution. I did not use the fuselage anti-glare black decals or the yellow wing identification decals – painting these areas seemed quicker and easier.

My primary reference was *Model Art Profile 5: Nakajima Ki-44 Shoki*; I also made use of Profile Publications' *Aircraft in Profile No. 255*. The completed model's outline compares well with references.

I completed my Ki-44 in a quick 18 hours – at which point I concluded that this is a magnificent kit! The execution in plastic, the engineering, and the ease of assembly are fantastic. I'd gladly recommend it to anyone interested in 1/32 scale and Japanese aircraft.

– Jim Zeske



The PzKpfw III J variant, equipped with a 5cm main gun, was the most widely produced version of the German medium tank.

Dragon PzKpfw III Ausf J

Dragon's kit of the initial production PzKpfw III Ausf J is the latest in its "Smart Kit" line, which relies more on modern molding techniques and less on photoetched metal. The box is stuffed with sprues from several kits. This can complicate finding the right part when you have several sprues with the same index letter. While the instructions are well illustrated, optional parts and assemblies are shown without indication of a specific vehicle.

All of the hatches and vision ports can be posed open or closed, although only basic interior parts are provided in the turret. Clear parts are provided for all the lights and vision blocks. Individual-link "magic tracks" are color-coded right and left. Decals for four vehicles are provided, with a few options to fit variations in the markings. No figures are included.

I started assembly with the lower hull. An errata sheet for Step Two shows the removal of some bolts from the lower hull. When installing the lower parts of the fender hangers (A5, A21, A23, A50, A51) to the hull, dry-fit the fenders with their hangers (A55, A56) in place to make sure everything lines up. I installed the optional exhaust deflectors as shown in Step 6.

THE TURRET IS A BEAUTIFUL MODEL ON ITS OWN ...

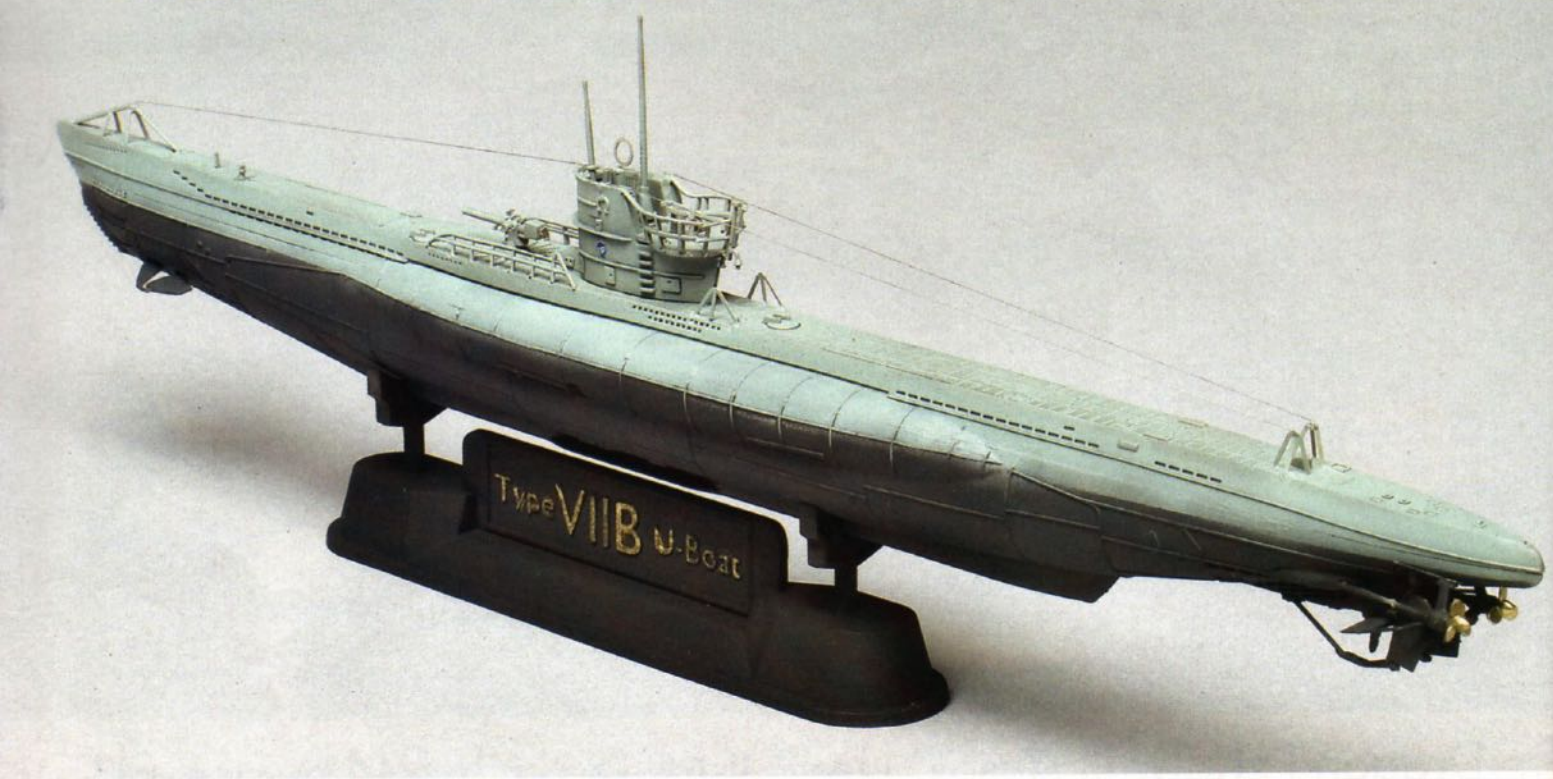
The upper hull is assembled in three major subassemblies. If you don't want to use the molded tow cables on the rear deck, Dragon provides empty clamps to put in their place. I noticed that the part numbers for the left rear fender flaps (A39, A41) are swapped in the diagram in Step 7. I glued the track links together with small dabs of Testors liquid cement (in the black needle dispenser) and let them set about half an hour before forming them to the drivetrain. While the instructions call for 98 links per side, I used only 93 and still had a touch of sag between the return rollers. The fenders and upper hull parts reminded me a bit of a Chinese puzzle – they must be added in the proper sequence. Install the forward plate (listed as J in Step 13) first, then the fenders, and finally the center and rear hull sections.

The turret is a beautiful model on its own and went together very easily. I suggest you add the outside exhaust fan ring (Part G6 in Step 20) before you add the fan itself (Part D15 in Step 18). The turret basket can be shown open. Molded on the turret basket are wooden strips to prevent shorting out the antenna. These were not on all vehicles, so check your references and remove them if necessary. Quite a few options are shown in the decal placement diagrams, and it is easy to become confused over which decals to use where.

Dragon has produced a superb model of the early PzKpfw III J. The finished vehicle matched exactly the dimensions in the *Standard Catalog of German Military Vehicles*, by David Doyle (Krause). I spent about 21 hours building it, and any modeler with experience handling small parts should enjoy putting it together.

– John Plzak

Kit: No. 35143 **Scale:** 1/35
Manufacturer: Dragon, www.dragon-models.com, from Dragon Models USA, www.dragonmodelsusa.com, 626-968-0322 **Price:** $45.95
Comments: Injection-molded, 737 parts (28 photoetched-metal), decals
Pros: Well detailed; posable hatches; effective use of photoetched-metal parts
Cons: Lots of tiny parts; poor indications for optional parts



The model may be small – less than 5" long – but AFV Club crammed its tiny submarine with details, including a partial pressure hull, scale-thin railing in both plastic and photoetched metal, and nicely molded decking.

AFV Club U-boat Type VIIB

The parts may be few, but AFV Club's U-boat Type VIIB sure does pack a lot of detail into a 1/350 scale kit. Rendered in olive styrene, it contains 61 flash-free injection-molded parts plus a fret of seven photoetched-metal pieces. A stand is also provided, so the model can be displayed nicely. The detail of the molded parts is fantastic, especially in this scale.

The front page of the instructions includes a brief history of the U-boat. Also provided is a parts breakdown and a color listing that references five different paint brands. My kit came with a revision sheet to correct mislabeling of parts in the original instructions. You will need this sheet to find the correct parts.

The fit of the hull parts is perfect, with no filler needed. Adding the deck (part C01) to the hull leaves a tiny seam that needs to be filled and sanded. Be very careful when sanding to avoid losing raised panel-line details.

Assembling the tower is pretty straightforward. Careful: The railings (parts A7, A9, and A6) are very fragile; take care in removing them from the trees. I lost Part A9 when it dropped to the floor and was eaten by the carpet monster sometime during the hour I spent on my hands and knees searching for it.

The photoetched-metal railings add a very nice touch of detail to this tiny model. Parts B20 and B21 are very thin; again, take care cutting these off the tree.

Three different U-boats can be built with this kit: *U-47*, *U-48*, and the one I chose, *U-99*. I used Tamiya neutral gray for the upper surface, Floquil grimy black for the lower hull, and Testors Model Master copper for the propellers. I added rigging with 1-pound fishing line to give the boat just a little more detail.

THE PHOTOETCHED-METAL RAILINGS ADD A VERY NICE TOUCH OF DETAIL TO THIS TINY MODEL.

The model took me about eight hours to complete, much less than what I had anticipated. The fit of the parts is great, even if the tiniest ones can be frustrating. I would highly recommend AFV Club's U-boat to any maritime modeler with a kit or two under his or her belt.

– Chris Oglesby

Kit: No. 73502 **Scale:** 1/350
Manufacturer: AFV Club, www.afvclub.com.tw, from Merit International, 626-912-2212, www.merit-intl.com
Price: $21.50 **Comments:** Injection-molded, 68 total parts (7 photoetched-metal), decals **Pros:** Excellent detail (especially on deck); good fit; photoetched-metal railings **Cons:** Tiny parts can be frustrating, easy to break or lose cutting from sprue; parts mislabeled in the instructions (errata sheet included)

Roger's evocative display show's Burt Monro's Indian motorcycle at speed screaming across the Bonneville salt flats.

Modeling the world's FASTEST INDIAN

Scratchbuilding Burt Munro's legendary two-wheel streamliner

BY ROGER YU

Finding interesting methods of display is a fun way to enhance the subject matter I model. For this project I decided to scratchbuild the "World's Fastest Indian" streamliner motorcycle in 1/43 scale and display it in a unique way. Built and ridden by legendary New Zealander Burt Munro, the real Indian was the result of home workshop expertise, mechanical intuition, a craftsman's know-how, and lots of time. The better part of 40 years, in fact. The story of Munro's remarkable journey from Invercargill, New Zealand to the Bonneville salt flats is depicted in the 2005 Anthony Hopkins movie "World's Fastest Indian." It's is a testament to perseverance, determination, and pluck. It should not be missed.

Scratchbuilding a model that has not been kitted before and finding a unique way to display it appealed to me. I thought the base should reflect the wide open spaces of the Bonneville salt flats. Racing vehicles that compete there are not relegated to the confines of a claustrophobic street circuit or even a carefully laid-out landscaped site. At the salt flats they race in search of the ultimate speed for the class they're in on over 30 square miles of pool-table-flat salt that seems to go on forever. To try to give an sense of this space, I decided to design a display case that would attempt to highlight the idea through an assymetrical composition.

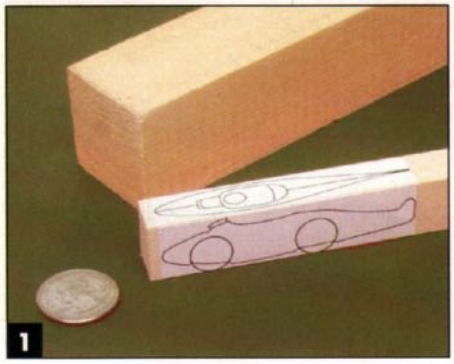
One little Indian

I started off by tracing the side outline of the Indian's bodywork I got from a reference I found online. This drawing, done in Adobe Illustrator, was then printed on a laser printer and spray-glued to a small block of wood for carving. I also created a top view, using the side view as a guide, **1**.

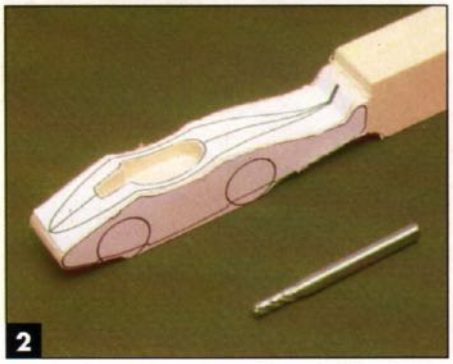
I used a Sherline mill fitted with a medium-size end mill bit to grind out the cockpit recess. This task could also have been done with a motorized grinder such as a Dremel or even accomplished with hand tools with a little patience, **2**. The recesses on the bottom of the fuselage for the Indian's skinny wheels were also done this manner. The body was then shaped using files and sanding sticks and sandpaper, **3**.

To make the metal rims for the Indian's wheels, I turned down some ½" aluminum rod on a lathe. The rims were made to fit small plumbing O-rings I found at my local hardware store. Since this was to be a "curbside" model (no interior detail) and since only a part of each wheel would be showing, I turned just a single piece for each wheel and cut it in two to make two halves of partial rims, **4**. For the spokes, I found a wire wheel diagram online and put it into Adobe Photoshop to spin with the "Radial Blur" filter. Since you can vary the spin rate, I made a couple of different options. I then output the file on transparency and cut out the best looking one to cut in half, and sandwich between the aluminum rim halves.

I used a 1/43-scale cast metal figure by

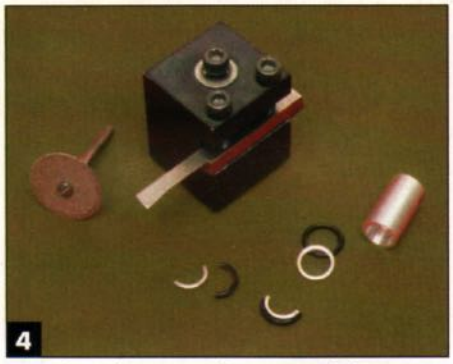


Roger started the project by spray-gluing outlines of the streamliner to a small piece of wood.

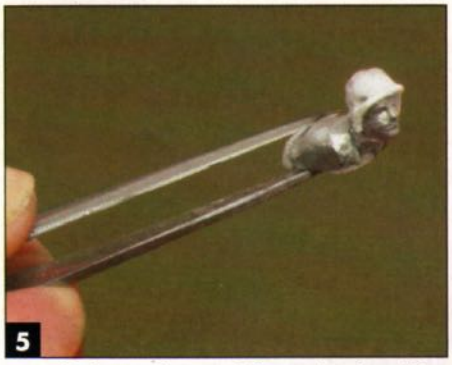


The initial outline cuts were done on a bandsaw. Here the body is shown with the end mill that was used to recess the cockpit area.

With some careful shaping and sanding, the guppy-like body shape begins to take shape.



Roger bored out some aluminum rod then put a small flange put on the edge before cutting things in half.



A small plastic rod created the inside edge of the helmet; the rest of the helmet was made using cyanocrylate glue and microbaloons.

A perfect, if snug, fit. "Mini Burt" tries out his new ride for size.

"Tron" of Italy as a basis for my rider, "Mini Burt." His head and limbs were cut off using a band saw an his head was re-positioned by imbedding a small bendable brass rod for a neck. I cut off his baseball cap's bill and glued a small length of styrene rod to his face to create a frame for the crash helmet's inside edge, **5**. Behind this and over the rest of his head, I built up a period crash helmet by applying drops of super glue onto which I sprinkled fiberglass microballoons. On contact the balloons form a hard filler that's lightweight, strong, workable, and permanent. I also built up the driver's jacket, pants, and neck using this material, **6**.

Adding Details

Next I turned to the tri-tail assembly. Like the body, I used computer drawings to generate cutting templates. I used several different thicknesses of sheet styrene to complete the assembly: .040" for the larger thicker central fin, and a sandwich of .030" and .015" for each of the two outboard fins. I used small sections of K&S rectangular brass tubing to create the outboard fin supports by gluing two small sections of it together and passing the part through a rectangular hole cut in the central fin. This created sturdy horizontal supports. By using a sandwich of different thicknesses of styrene, I was able to create a recess in each of the outboard fins into which the brass supports nest, **7**.

The real Indian's fiberglass bodywork sported lots of aluminum trim and a variety of smaller details. To represent the trim I used .020" styrene rod superglued to the wood fuselage. There are also two snorkel-like intake tubes on either side of the windscreen; I made these out of bent and stretched kit-sprue. After bending the sprue I drilled out one end out to create the hollow for the intake tube. I pinned the other ends with a thin brass rod for inserting into holes drilled in the body.

Other details included the fabrication of the two small casters that were used to support the bike at rest. These small wheels emerge from recesses in the body when needed but are flush with the bodies' surface when pulled up and in for a run.

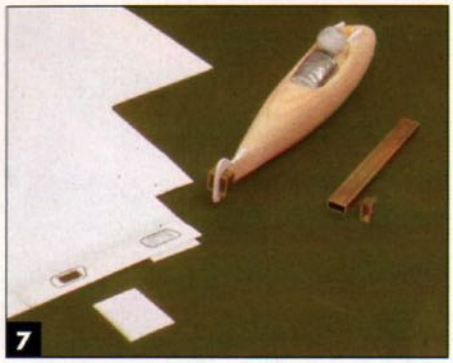
I turned two tiny wheels from aluminum, found some small common pins for them to spin on, and made "gear" (brackets) from styrene strip and rod. Not shown in the detail photo are two small sections of hypodermic tubing at the pivot-end of the wheel assemblies.

Next, I created a small "detail panel" in relief to create the impression of detail in the area just below the windscreen. I used bits of workbench scrap to assemble a visual representation of the top of the Indian's steering yoke and some of its supporting members. Also, I bent a roll hoop out of 1/16" brass rod. The hoop follows the rear shape of the windscreen and glues into two holes drilled into the inside of the cockpit.

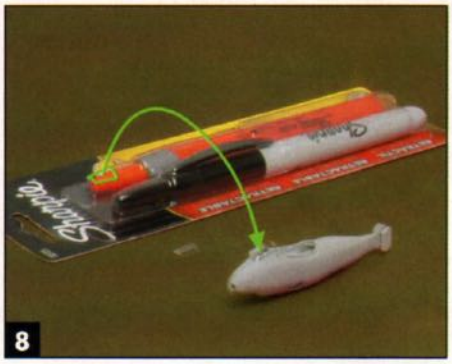
The windscreen itself was next; for this I'd try something different. Since there are thousands of items in stores that are blister-packed, why not try to find the shape I needed from an existing package? Buying something just for the package seemed somehow wrong, but I kept an open mind about it and found a new "Sharpie" blister-pack that was perfect. Thankfully, I could use both the packaging, **8**, and the product!

On display

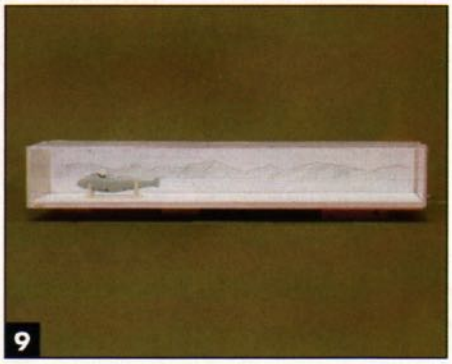
One of the traits of a vehicle at speed on the salt flats is a long dust trail left in its wake. This trail can sometimes extend hundreds of feet behind the vehicle, so I chose to emphasize this feature in my display base. I put the motorcycle at one extreme end of the display case and let the long dust trail take up the rest of the space. This would result in an interesting composition and create some visual "tension." I mocked it up to see how it looked, **9**.



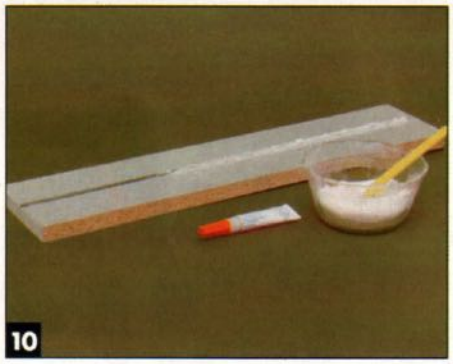
Roger made the horizontal outboard fin supports from two small pieces of rectangular brass tubing he glued together.



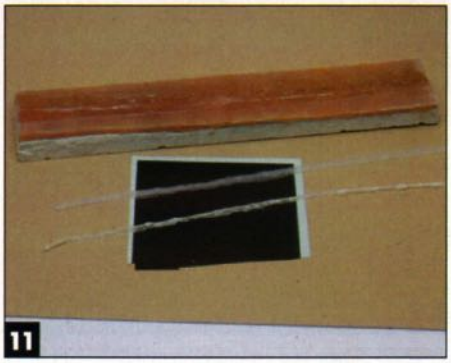
If you can find small section of blister-pack that's just the right size and shape, it can save a lot of time and effort vacuum-forming small windscreens.



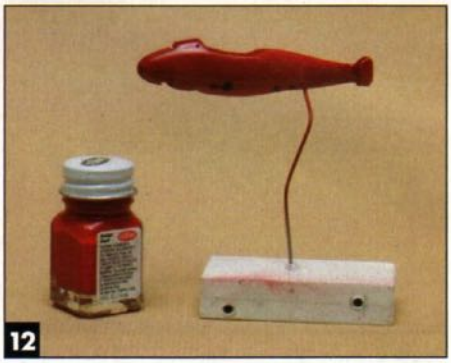
The mock-up shows the display's composition. The model was placed at the left with its dust trail taking up most of the case.



The microballoon/super glue technique was used to produce a master for the dust trail. A length of wire served as the trail's spine.



Roger tried several different materials to simulate the dust trail including silicone (top) and Elmer's Glue (bottom).



Using humble Testor square-bottle enamel seems in tune with the homemade character of both the model and the subject.

I decided to cast a dust trail in a clear substance to try to simulate the gossamer shape created by dust particles suspended momentarily in the air. To start I would need something to make the female mold from. I took a piece of scrap wood and hot glued a metal rod to it which would serve as the "spine" for my trail. I added shape and texture to the wire by applying crazy glue and microballoons to it *a la* sand castle, until the shape of the dust trail was irregularly pleasing, **10**.

Next I cut some low walls out of wood and attached them to the base with screws to create a rectangular container. Once everything was dry I started to build up the mold by brushing on coats of latex rubber to the model of the dust trail. It took quite a few coats to do.

After the rubber was dry I filled the rest of the mold cavity with plaster of Paris, which would give the rubber a square base to rest on while I poured in the medium of choice. After the plaster of Paris hardened, I unscrewed the walls and pulled the rubber-and-plaster sandwich free. When I turned it over, it made a supported mold that would stay square even when I filled it with casting material.

Display

I tried casting the dust trail in the mold made in the last issue out of several materials; clear hardware-store silicone, white glue, and model-railroad landscaping product called Realistic Water from Woodland Scenics. None was ideal, but the Realistic Water came the closest. I glued a coat hanger wire to the final base, cut out of a scrap of 5mm Sintra (much like I did to make the original for the mold). I fit the half-hollow casting made from Realistic Water over the wire and attached it with a few dabs of Elmer's glue. For the rest of the top surface of the base, I sprayed it with 3M Spray Mount artist's aerosol adhesive and packed it with real salt. Once the adhesive was dry I shook off the excess, **11**.

Low-tech

Trying to stay low-tech where ever possible, I decided to use the garden-variety "Gloss Red" Testor square-bottle enamel airbrushed out of a Paasche VL for my finish, **12**. After the paint was dry, Bare Metal Foil's matte aluminum foil was used to detail the trim on the Indian's bodywork. The material does conform itself nicely to curves, but only to a point. In tight bends or curves, strategic slitting of the foil with a new hobby-knife blade becomes necessary, **13**.

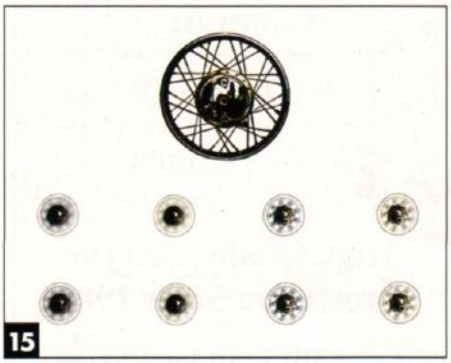
Burt Munro's full-size hand-wrought livery had to be recreated for this project, but making decals or transfers was not practical. I was building this project as a representational model, not a 100-percent, no-holds-barred contest model.

The solution I came up with to create the distinctive stripes on the Indian's bodywork was to lay down a stripe of plain white decal material, over which I applied a narrower black decal. This combination created a black stripe with a thin white outline. I had to hand-paint things where the stripe flares into the nose section, but I could use the same method – white paint first, then black, leaving the thin white edge.

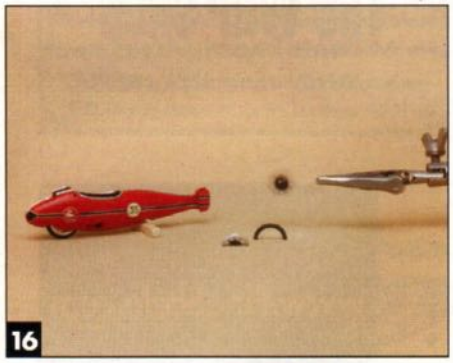
The Munro-painted Indian insignia and the yellowish meatball with the number "35" in it were tackled next. Again, I turned to the computer. Over the course of this project I've collected the better part of 100 JPGs image files of the streamliner. One in particular showed the front, hand-painted design in great detail. As for the meatball, that was created in Photoshop using refer-

Creating a stand like this for your subject can make life easier for tasks down the line; it also keeps fingerprints to a minimum.

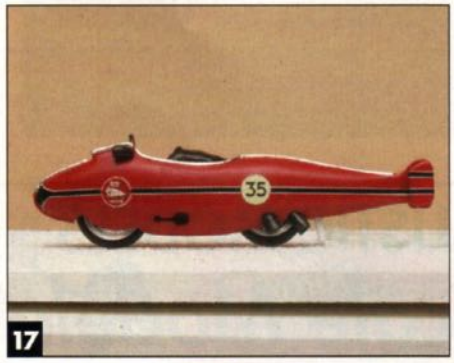
Photoshop is a good program for modelers. It allows you to create any kind of graphic file, manipulate it, then output it in a great number of different ways.



This wire wheel was spun electronically in Photoshop and output on a sheet of clear film for $1.29 at a Kinko's copy shop.



Here are the components of the half rims and the plumbing o-ring tires. After assembly the parts were glued to the underside of the bodywork.



Just behind the rear wheel you can see the 1/16" brass rod that anchors to the whole piece. It's concealed by a patch-piece of "dust trail" left over from the casting.

Here are the laser printouts of the "Bell" helmet logos, the diminutive goggles Roger made from aluminum tubing.

ence photos as a guide. These files were then sized and printed out on my laser printer. I then cut them out and glued them to the bodywork with Elmer's glue, **14**.

While we're on the subject of Photoshop, I also needed it for the next feature, the wheels. There is a feature in Photoshop which allows you to take an image and make it look like it's spinning. I found a diagram of a motorcycle wire wheel online and applied this filter to it in different degrees, **15**. Then I took the file to Kinko's and output it on transparency film. My intent was to sandwich a section of this output between aluminum rim halves, to produce a wheel section that appeared to be spinning while standing still. As it turned out, very little of it showed in the final model, **16**.

The more little bits that I attached to the fuselage, the more the little Indian came to life. At this point it became apparent to me how critical such things as ride height and the dimensions of miniscule details are to the outcome of a small-scale model, **17**.

There was precious little left to do; and Mini Burt's head was next. I sprayed the helmet white and brush-painted the face a base color. A few washes and some dry-brushing helped delineate the contours of the face. I also brush-painted the black ribbing that outlines the front edge of the vintage helmet. The "Bell" logo, seen in large form on some of the historic photographs, was grabbed from a Web site, then printed out at the appropriate size. Like the fuselage livery, they were glued to the glossy paint surface on either side of the helmet with Elmer's glue. I also made a pair of goggles from two thin slices of ⅛" aluminum tube. Before I superglued them together into a tiny pair of specs, I flattened both circles just a little using a small vise, **18**.

Another job for Photoshop was the creation of the graphic background for the diorama that I could adhere to the inside back wall of the clear case. I wanted it to have descriptive copy and sport the Indian script type as it appeared in the movie collateral. Photoshop's layering ability made this possible.

The file was output on a high resolution printer, cut out carefully and glued to the inside of the case. another version without type, and with a vertically extended sky was also output, adhered to a board and used as a photographic background.

One of the last things to do was create a method of closure between the base and the clear cover. I decided to drill holes right through both at four locations and use 2mm allen-head bolts painted white, as push-in "pegs."

Finish line

I had lots of fun scratch-building the "World's Smallest Indian." As with any project, new lessons were learned and a greater appreciation for the subject was gained. I thought the asymmetrical composition for the display was effective although the dust trail could have benefitted from further research and experimentation. Also, I learned that at a small scale like. it becomes increasingly important that correct proportions be obtained and adhered to. Had I to do it over again, I would have paid more attention to the scales of these tiny details. Things like correct ride height, rake, and other clearances are so important. Hitting these tolerances and seeing that small details are scaled precisely can make or break a scratch building project. They can be the difference between a satisfying replica and a more toy-like outcome. **FSM**

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